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Toward a Universal Theory of the Human Group:[1]
Sociological Systems Framework Applied to the Comparative
Analysis of Groups and Organizations

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ABSTRACT

Drawing on a sociological multi-level, dynamic systems approach – actor-system-dynamics (ASD) -- which has been developed and applied in institutional, organizational, and societal analyses, we formulate a general model for the comparative analysis of social groups and organizations. *This social systems approach has not been previously applied in the group area.* We claim that the approach can be systematically and fruitfully applied to small as well as large groups and organizations as a methodology to understand and analyze their structure, functioning and dynamics.

A group is considered a system with three universal subsystems on which any human social organization, including small groups, depends and which motivate, shape and regulate group activities and productions. *The subsystems are bases or group requisites – necessary for group "functioning" and performance in more or less orderly or coherent ways; on this basis a group may be able to realize its purposes or goals(as well as possibly some members' personal goals) and maintain and reproduce the group. The group bases consist of: first, a rule regime (collective culture)defining group identity and purpose, shaping and regulating roles and role relationships, normative patterns and behavioral outputs; second, an agential base of group members who are socialized or partially socialized carriers of and adherents to the group's identity and rule regime; of relevance here are involvement/participation factors motivating member to adhere to, accept, and implement key components of the rule regime; third, there is a resource base,*

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technologies and materials, self-produced and/or obtained from the environment, which are essential to group functioning and key group performances.

Section I briefly presents the framework and outlines the group systems model, characterized by its three universal bases or subsystems and its finite universal production functions and their outputs as well as the particular context(s) in which groups function. For illustrative purposes, the section identifies three major ideal-type modalities of group formation: informal self-organization by agents, group construction by external agents, and group formation through more or less formal multi-agent negotiation.

The general systems model presented in Section II characterizes a social group not only by its three universal bases but by its finite universal production functions (elaborated in Section IV) and its outputs as well as by its shared places (situations for interaction) and times for gathering and interacting. Group productions impact on the group itself (reflexivity) and on its environment. These outputs, among other things, maintain/adapt/develop the group bases (or possibly unintentionally undermine/destroy them) Thus, groups can be understood as action and interaction systems producing goods, services, incidents and events, experiences, developments, etc. for themselves and possibly for the larger environment on which they depend for resources, recruits, goods and services, and legitimation. The model provides a single perspective for the systematic description and comparative analysis of a wide diversity of groups (Sections III and IV).

A major distinctive feature in our systems approach is the conceptualization of rules and rule regimes (Sections II, III, IV, and V). Finite universal rule categories (ten distinct categories) are specified; they characterize every functioning social group or organization. A rule regime, while an abstraction is carried, applied, adapted, and transformed by concrete human agents, who interact, exchange, exercise power, and struggle within the group, in large part based on the rule regime which they maintain and adapt as well as transform.

The paper emphasizes not only the systemic character of all functioning groups – universally their three bases and their output functions together with feedback dynamics -- but also the differentiating character of any given group's distinct *rule configuration* (Section IV). For illustrative purposes Section IV presents a selection of rule configurations characterizing several ideal types of groups, a military unit, a terrorist group, a recreational or social group, a research group, a corporate entity Section V considers the dynamics of groups in terms of modification and transformation of group bases and their production functions. The group system model enables us to systematically identify and explicate the internal and external factors that drive group change and transformation, exposing the complex interdependencies and dynamic potentialities of group systems. Section VI sums up the work and points out its scope and limitations.

The group systems model offers a number of promising contributions: (1) a universal systems model identifies the key subsystems and their interrelationships as well as their role in group production functions/outputs and performances; (2) the work conceptualizes and applies rules and rule complexes and their derivatives in roles, role relationships, norms, group procedures and production functions; (3) it identifies the universal categories of rules making up a rule regime, a major subsystem for any functioning group; (4) the model conceptualizes particular "group rule configurations" – rule regimes with specified rules in the universal rule categories—for any given group; groups are identifiable and differentiable by their rule configurations (as well as by their resource and agency bases); (5) it conceptualizes the notion of the degree of coherence (alternatively, degree of incoherence) of rule configurations characteristic of any given group and offers an explanation of why group attention is focused on the coherence of rules in certain group areas; (6) the systems model suggests an interpretation of Erving Goffman's "frontstage backstage" distinction in terms of alternative, differentiated rule regimes which are to a greater or lesser extent incoherent with respect to one another; moreover, the participants who are privy to the differentiation navigate using a shared rule complex to translate coherently and consistently

from one regime to the other, using appropriate discourses; (7) incoherence, contradiction, conflict and struggle relating to rule regimes are considered part and parcel of group functioning and development; (8)group stability and change are explicated in terms of internal mechanisms (e.g., governance, innovation, and conflict) as well as external mechanisms (resource availability, legal and other institutional developments, population conditions), pointing up the complex systemic interdependencies and dynamic potentialities of group systems; (9) given the multi-level dynamic systems framework (i.e., ASD) that has been applied in a range of special areas (economic, political, technological, environmental, bio-medical, among others) its applicataion in the field of groups is a promising step toward achieving greater synthesis in sociology and social science.

This 2nd edition of the paper has been substantially rewritten and extended: the current text is twice the number of pages of the original – and there has been much restructuring of the manuscript as a whole. Tables and figures have been added. Substantively, we developed the following features of the work in the 2nd edition: (1) more attention has been given to tension, conflict, and conflict resolution in groups; (2) we also stressed group requisites for sustainability and group production functions; (3) a section on group formation with illustrations has been added; (4) we have expanded our attention to group rule configurations which differentiate groups from one another but also enable systematic comparisons; (5) we have much expanded consideration of the dynamics of group change and transformation.

I. INTRODUCTION

1. A Sociological Systems Approach to Groups and their Behavior[2]

Adopting the perspective of one variant of a sociological systems approach – actor-system-dynamics (ASD) -- this paper provides a conceptualization of human groups and their dynamics.[3] The work makes two contributions: (1) It provides a complex, adaptive systems model of human groups – groups as input-output systems with interrelated and dynamic subsystems; (2) it distinguishes groups in terms of their distinctive social architectures based on their rule regimes and agential and resource bases, distinguishing, for instance, memberships bases, rule regimes, technological and resource bases, and input-output configurations of a military unit, terrorist group, a recreational or social group, a research group, and hospital unit, among others (see subsection 2 below; also Section IV).

A systems model identifies the empirical system and its interrelated subsystems, in this instance a human group and its core parts or bases.[4] An ongoing functioning group (with interconnected, coordinated members, resources, and activities) is a complex, dynamic system made up of three basic subsystems, embedded in a social and ecological context which affects the group and its behavior and which to a greater or lesser extent is impacted by the group and its actions. The three group subsystems consist of : (1) a *rule regime*[5] which defines group purposes

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[2] There is a massive and highly diversified body of group research in sociology (Bales, 1950; Berger et al, 1962; Berger et al, 1977; Burke, 2006; Farrell, 2001; Fine, 2012; Homans, 1950; Szmatka et al, 1997; Zelditch, 2013, among numerous others). It is not our intent here to review or to cover this vast literature but to advance a sociological systems approach to group analysis.

[3] The systems theory perspective views, in general, a system as a complex of components directly or indirectly related in causal networks, where some of the components are related to some others in a more or less stable (though potentially flexible) way at any one time and thus constitute some kind of organized dynamic whole. The interrelationships may be mutual or unidirectional, linear, nonlinear, or intermittent and varying in degrees of causal efficacy or priority; the particular kind of more or less stable interrelationships of components that become established at any time constitute the particular structure of the system at that time, thus exhibiting a kind of "whole" with some degree of continuity and boundary (Buckley, 1998:85)

[4] In contrast to a mechanical or electronic system, a social system such as a group has members/participants who may refuse to follow the prevailing rule regime, or interpret them in new ways, or, in general, innovate on their own in diverse ways. That is, they may change the rule regime, intentionally or not, its rule complexes and algorithms. Social scientists speak of human agency and the creativity of human beings. Human rules and laws are, of course, of a different character than natural laws. Humans are also moral beings, motivated and constrained by moral principles and norms but again ready to deviate under some conditions.

[5] Rule, rule complex, and rule regime, among others, are technical-mathematical concepts developed by Burns and Gomolinkska (1998, 2000), Burns and Roszkowska (2008, 2009), Gomolinska (2002, 2008); these concepts have been elaborated and applied in a range of sociological and social science studies (for an overview, see Burns (2006b) and for applications and elaborations see Burns et al (1985); Burns and Flam (1987); Burns and Hall (2012), Carson et al, 2009). *The rule regime specifies key group norms, relationships, procedures, rituals, discourses, and other practices characteristic of the group.* A subset of the rule regime defines group interaction situations/ arenas including times and places for interaction; group purposes/values and its sacralities are also defined; other subsets of the regime define group membership – who are the members/what characteristics should they have; what are their roles, relationships, etc. (in short, what is the structure of the group); and what does the group and group members do, how, with what means, methods, and technologies, they do what they do; finally, what are key group interactions and processes including governance and powering interaction. That is, the regime implies a status and authority structure, role relationships, and distinguished inside from outside (through, for instance, inclusion/exclusion rules). Group members, and, in particular, its leadership also exercise power over individual members. A group to varying

and values, norms, membership conditions, procedures for coordinating decisions and actions, production programs, social relations and roles (including leadership) among other sociologically relevant factors; (2) *the agential subsystem or base* (membership and recruits that are socialized into rule and performance knowledge, with capabilities to participate in group functioning but also to adapt and innovate); and (3) the *group resource subsystem or base* (technologies and materials used in group functioning but also its adaptations and innovations).

The group system has its own feedback inputs as well as inputs from external agents and environmental forces of information, recruitments, resources (materials and technologies used in production), rules (including laws, norms, values, and beliefs) and rule change demands – all of which affect group functioning, stability, and sustainability (as discussed later)). The system outputs are interaction patterns, control attempts and demands for information, products (material and ideational, technologies, possibly trained people) and impact on its environment(s). Later we examine concrete groups, some of which are self-organized, others are constructed or "legislated" by external agents – most groups emerge through combinations of internal and external structuring processes.
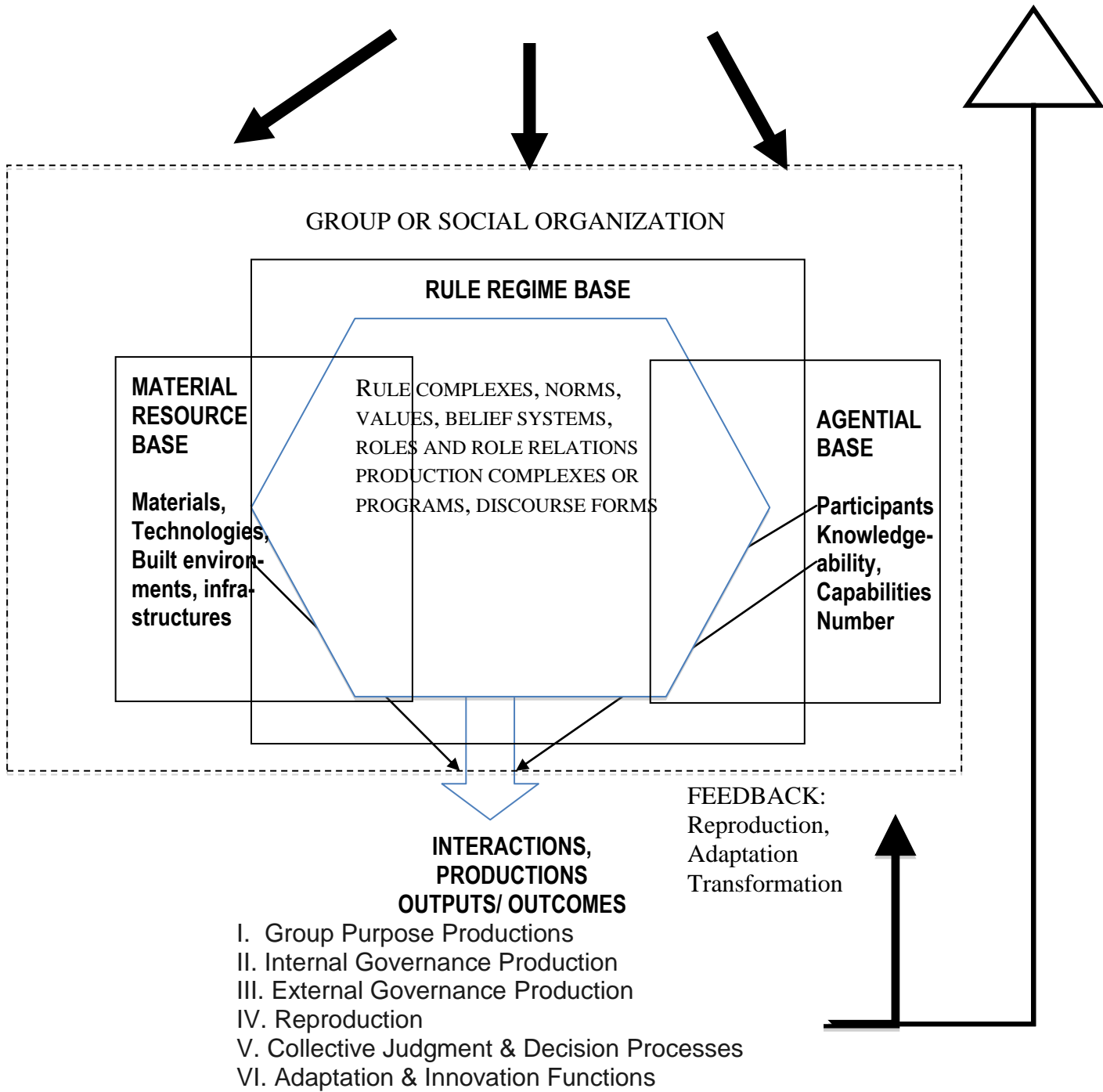
Functioning or operating groups produce their interactions as well as a variety of outputs -- directed and regulated by their established rule regime as well as by the exercise of human agency among the participants. Some of a group's productive activities and outputs are essential to group sustainability but many unessential activities and outputs may be produced as well (impacting on the group environment and, possibly, reflexively on the group itself). Among the qualitatively different, essential functional activities and outputs of groups which we specify and discuss include *production of material goods and services, collective group symbolic displays and rituals including possibly spiritual events; internal governance; external governance; collective judgment and decision procedures; and functions of adaptation and innovation* (see Figure 2 for the specified outputs).

Groups vary greatly in their degree of "groupness:" some are temporary groups, quasi-groups, weakly formed groups. Simply meeting together as in networks or in bars does not make such a social gathering (or collection) a functioning group any more than a crowd is a group (Gastil, 2010). In the early stages of group formation, the degree of completeness and the degree of institutionalization are typically limited. Group bases may be initially weak and may fail to be maintained/reproduced over time, resulting in group failures and possible demise.

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degrees exercises external influence, and impacts, on other agents or groups as well as material/ecological conditions.

Figure 1. Systems Model of Social Groups

SOCIAL AND ECOLOGICAL CONTEXTS

GROUP OR SOCIAL ORGANIZATION

RULE REGIME BASE

MATERIAL RESOURCE BASE

Materials, Technologies, Built environments, infrastructures

RULE COMPLEXES, NORMS, VALUES, BELIEF SYSTEMS, ROLES AND ROLE RELATIONS PRODUCTION COMPLEXES OR PROGRAMS, DISCOURSE FORMS

AGENTIAL BASE

Participants Knowledge-ability, Capabilities Number

INTERACTIONS, PRODUCTIONS OUTPUTS/ OUTCOMES

I. Group Purpose Productions
II. Internal Governance Production
III. External Governance Production
IV. Reproduction
V. Collective Judgment & Decision Processes
VI. Adaptation & Innovation Functions

FEEDBACK:
Reproduction,
Adaptation
Transformation

The framework enables us to articulate a single, coherent model with which to describe and comparatively analyze functioning groups in all of their great diversity. Groups are characterizable and distinguishable (from one another) in terms of differences in their three capability subsystems (rule regime, resources, and the agency of the membership) and their outputs – the latter impact in intended and unintended ways on the groups themselves reflexively (self-organizing and self-reproducing/transformation) as well as on their social and ecological environments. Although these universal features characterize all groups, any given group has *particular* identifiable rule configurations and output functions distinguishable from other similar and, of course differing, groups. Group rule configurations of groups are not arbitrary – they are subject to principles of constraint which entail a coherence or logic. We provide illustrations of military, social, business, sports, and terrorist groups: their membership and agential bases (recruitment, capabilities), their resource bases (the particular materials and technologies they use in their activities and production), their rule regime bases (specifying group purpose, membership criteria, roles, role relations, production programs, times and places for conducting group activities).

In the paper we develop and apply to the description and analysis of groups the conception of group bases including rule regimes and their interaction/production functions. Groups are characterized in our social systems framework by their three requisite bases or subsystems as well as by the patterns and properties of their outputs including group production, reproduction and evolution patterns. Also, groups are describable and distinguishable by their particular values, their social structures including role relationships, their resource base, and their particular outputs and patterns of development. There is a logic to any group based on its value(s) and goals relating to group interaction/production and the division of labor (social structure) and the technologies and materials used in interaction/production. Certain productions require agents with particular knowledge (blueprints together with interaction or collaboration knowledge) and skills, a motivational basis for members' accepting and applying the rule regime, and a resource base providing access to or control over particular technologies and materials used in group activities.

2. Modalities Of Group Formation Briefly Illustrated

Group formation entails members being recruited or recruiting/selecting themselves, the mobilization and deployment of resources (materials and technologies) essential for group activities and production, and the formation or adoption of a rule regime (which defines group purpose(s) and values, role relations (including leadership), and production programs or functions. Groups may be formed in a variety of ways. The systems perspective outlined in this paper identifies three principal paths to group formation: organic or self-organization, external construction or "legislation" by a single agent, and multi-agent negotiated group formation. The main distinction between these paths rests on whether the group participants themselves, or external agent(s) initiate the formation, and whether universal group bases -- the agential, rule regime, and resource bases -- are mobilized either by the members themselves or by external agents in the environment. The group bases are assembled or combined in such a way that the group or its designers believe that they are likely to complete its tasks successfully and realize group purposes. Later we discuss related topics, considerations of coherent group configurations

and production functions as well as the performance failures, demise, or transformation of groups when their bases are inadequate or undermined.

Group formation may start, for instance, with the founder of a group like a charismatic leader who attracts followers and defines group goals, social relationships, and strategies. Alternatively, a company executive may set up an R&D group or a sales unit defining goals, resources available, production plans and arrangements. Or additionally, the rule content of the universal category regime may emerge through spontaneous interactions and negotiations in a social network or among an aggregation of agents.

Below we illustrate empirical examples of the three mechanisms of group formation which we have identified: organic or self-organizing emergence of a group constructed by eventual members themselves as they interact; explicit construction or "legislation" of a group by a powering or authoritative agent; multi-agent negotiated construction or legislation of the group as in the case where several powerful individuals, companies, government agencies, or civil society associations deliberate, negotiate and determine the group formation (see Burns and Hall, 2012). While there are also hybrids and complex combinations of these mechanisms for our purposes here these three major mechanisms serve to exemplify our points.

A. *Organic or self-organizing group formation*.

Norton Street Corner Gang (Whyte, 1943; Homans, 1950; Rogers, 1951)
Rogers (1951: 26) quotes Whyte: "Close friendship ties already existed between certain of the men, but the Nortons, as an organized group, did not begin to function until the early spring of 1937. It was at that time that Doc returned to the corner. Nutsy, Frank, Joe, Alec, Carl, and Tommy had great respect for Doc and gathered around him. Angelo, Fred and Loud followed Doc in making the corner their headquarters. Danny and Mike were drawn to Norton Street by their friendship for Doc and by the location of their crap game, right next to the corner. Long John followed Danny and Mike." Rogers (1951:26) continues: "There is a record of several years of association between the last three, of a nature indicating genuine friendship…The plain meaning of this paragraph is that several young men, some of whom liked each other and some of whom like Doc, eventually formed a group and began the period of close association that Mr. Whyte studied. The evidence appears irrefutable that liking preceded formation of the group and the consequent increased frequency of interaction, not vice versa." A group rule regime emerged over time, defining purposes, roles, role relationships, action programs, times and localities for meetings. Friendship conceptions and norms were a core part of this regime. Also part of the regime were the production complexes associated with bowling, baseball, and dating the Aphrodite girls. Key group resources were not only the Norton's "corner" but access to the bowling alley, places to play baseball, etc. Doc was the group's leader and commanded considerable respect not only because he was generally liked but because he performed well in their sports games (not always best but among the best) and he was relatively skilled at resolving group conflicts and assuring the cohesiveness and solidarity of the group.

Farrell (2001) McLaughlin (2008), and Corte (2013) also describe cases of organic group formation defined as collaborative circles: these are group[s] consisting of peers who share similar occupational goals and who, through long periods of dialogue and collaboration, negotiate a common group vision that guides their work (Farrell 2001:3). Examples are many: the Impressionists, the Rye group of writers, the Psychoanalysts, and the Frankfurt School. These were self-organizing groups around an activity or interest but with affinity ties emerging as a key

dimension to group formation, development and functioning – some ties existed earlier in some cases but others emerged in the course of group development. In all of these groups, as in the Nortons, there were distinctions in roles and ranks as well as leadership; there were group loyalties supported in part by their shared interests and reciprocal activities. There were certain repeated activities, patterns, and places, but also established norms, role relations, and, in general, a group rule regime, which members followed to a greater or lesser extent. Monitoring and sanctioning of behavior could also be ascertained. One of these cases was investigated by Corte (2013) and presented briefly below.

Freestyle BMX (bicycle MotoCross) Circle.
Corte (2013) describes a BMX circle that emerged in Greenville, North Caroline beginning in 1995. It consisted of professional riders of circles from various distant towns and cities who migrated to this place because they found there a dense network of people who shared their identities and interests as a setting which was conducive to their goals. By congregating in Greenville and attracting one another (some were already friends or acquainted with one another from competitions), members maximized homogeneity in cultural backgrounds, stages of career, and ages of the members which facilitated collaboration[6]. Critical was an available skatepark and moral support from the local community that afforded the group the space and time it needed to unite, articulate a common vision, and produce dramatic innovations in their sport that technically advanced their sport.

These riders were motivated by similar professional goals, possessed similar capabilities, and were familiar with each other from having met at various competitions over the years. Collectively, their accomplishments attracted national attention; in March 2001, Ride BMX Magazine, a niche publication dedicated to BMX riding, dubbed Greenville ''Pro Town USA'' Inspired by the success of the Greenville pros, a large number of professional and amateur BMXers began relocating to Greenville in the early 2000s. Many riders who did not move permanently still visited for extended periods of time (often more than once and sometimes regularly), as it became an important destination in the field of BMX for the goal of pushing the limits of their activity. Corte maps the way in which a core membership of "pros" was built up and functioned; together, the core became a collaborative circle. The group developed a common rule regime, leadership, values and norms concerning competition, the idea of technical progression, professionalism, the importance of participating in major competition, and norms of access and use of the ramp park. The key factor of the resource base of the group was the free and unregulated access to the ramp park.

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[6] Note that, in contrast, some of these same factors undermined the development of the Rye group (Farrell 2001).

B. *Group formation via external construction or "legislation."* [7]

The Establishment of an Organ Transplantation Unit (Frodin and Backman, 1985; Machado, 1998). In one of our case studies, an organ transplantation unit was established in 1969 in a major Swedish University hospital. An initial hospital policy decision was made to transplant kidneys, involving the Urology and Surgery Departments, with the support (and lobbying of) several physicians and surgeons (in that time period it was a general expectation that a major academic hospital should be engaged in transplantation (Machado, 1998)).

The success of organ transplantation require high technical expertise and substantial hospital resources. Appropriate experts (surgeons, nephrologists, urologists, kidney specialists, administrative nurses, among others) were recruited and resources provided so that transplantations could be carried out – these are technically very challenging and highly costly medical practices. Budget resources had to be mobilized to support surgical, medical and auxiliary services. Development of the unit meant building up expert and technical networks through which advice and services could be obtained: from nephrologists, anesthesia and intensive care units, radiology, laboratories, clinical immunology and scientists working in relevant areas (renal research group at the University Institute of Physiology and its Biomedical Centre as well as the private Pharmacia company). [8]

The development also entailed building up inter-hospital networks to obtain compatible organs from other hospitals in the region ("the harvesting programme," obviously, a critical resource); the networks of these hospitals were also essential for identifying technically appropriate and eligible candidates for implantation (before the major advances of modern day immunological therapies and medicines, the need of finding compatible body parts to the organ replacement was absolutely essential for successful transplantation).

Legal, hospital, and professional rules – making up part of a complex rule regime (actually multiple regimes) – had to be identified and specified and introduced as part of the units' practices – relating to all of its many functions in the phases of the transplantation process. There were such laws and norms governing the conditions for the procurement of body parts from the living and from corpses; also, there were rules and norms regulating the allocation of those parts (since they were a critical and scarce resource to be apportioned among severely patients). There were finally rules and regulations concerning follow-up treatment and the maintenance of recipients on a life-long drug regime.

Given the severity of the medical conditions treated by organ transplantation and the weirdness (at least at the time) of utilizing body parts of deceased and of healthy living donors, the surgical transplantation of organs, almost from the start, became a practice surrounded by

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[7] Groups develop in a variety of ways as a result of key agents in their environment such as the state. For instance, ethnic groups are encouraged to form in Sweden to obtain subsidies. Application requires that one or more purposes be identified, which may or may not have relate to their original activities. Eventually, a group may obtain a subsidy from the state – typically requiring more formalization along with a preoccupation (and appropriate production functions) to continue to obtain Swedish state subsidies. At the same time, a sufficient resource base enables the group to elaborate its purposes and production functions.

Or, in Kenya, without subsidies, women groups were formed spontaneously in many towns and villages, providing mutual assistance and support among women. Eventually the national state decided to subject them to administrative control and insisted on their formalization, requiring them to take on an official name, adopting a formally designated group structure, and adhering to specified accounting practices, etc. (Ahlberg, 1991)

[8] Organ transplantation has a high tech aspect and developed ties to clinical immunology, microbiology and immunology focusing on graft rejection and strategies to overcome it.

ethical ambiguity and cultural transgression – entailing a number of issues that had to be addressed by the unit. Moreover, there emerged some hostility in some media and among some in the medical profession about "harvesting organs" and the "harvesters" themselves. Over time, the transplantation unit developed conceptions, discourses, arguments, and rituals for themselves as well as for the patients (including donors) and their next-of-kin. However, there was nothing in their medical and professional training which prepared them for these cultural adaptations and innovations –they accomplished this piecemeal and learning from other units in Sweden and elsewhere in the world.

9/11 Terrorist Group. Gastil (2010, Chapter 1) writes about the 9/11 terrorist group from a group analysis perspective, drawing on the *Report* (2004) of the U.S. National Commission on Terrorist Attacks upon the USA (specifically 9/11) based on documents, interviews, and interrogation. The process began with Bin Laden and Mohammed Haydar Zammar formulating a plan which would become the 9/11 hijacking mission. When it came to recruiting an appropriate taskforce, their attention was drawn to a Hamburg cell which consisted of Mohammad Atta and his roommates, Marwan al Shehhi and Ramzi Binalshibh along with Ziad Samir Jarrahboth who would be key participants in the 9/11 attack.[9] During 1999, meetings were held in the Hamburg apartment three to four times each week to discuss their anti-American and anti-Semitic ideology and to consider what actions they might take to advance their jihad ambitions; gradually, they became "The Hamburg Cell", increasingly secretive and reclusive.

In late 1999, Atta, Shehhi, Jarrah, and bin al-Shibh decided to travel to Chechnya to fight Russian soldiers. However, al-Qaida recruiters in Hamburg convinced them at the last minute to travel instead to Afghanistan to meet with Osama bin Laden and train for terrorist attacks. In Afghanistan, they gave up their plans to fight in Chechnya against the Russian and were told they would be engaged in a highly secret mission, namely the 9/11 project, and were instructed to return to Germany and enroll in flight school. In Germany they like other future hijackers in the group tried to hide their radicalism and blend in with the population (shaving their beards, wearing conventional German student clothing, and ceasing to worship in Mosques). With financial backing from al-Qaida, they moved to the USA (except for Binalshibh who could not obtain a visa) and continued their flight training in different parts of the USA (some of this was noticed and appeared in FBI reports which reached President Bush's desk during the summer of 2001. Their secrecy – and eventual congregating in Florida reinforced their loyalty to one another and to their cause. The core members of the Hamburg cell were obviously smart, increasingly technically skilled and able to pass among Westerners. Additional fellow hijackers took up residence in Southern Florida near Atta and Shehhi (Venice, Florida). The expanded group proved able to function as a single, task-oriented team – eventually 4 subteams one for each of the hijacked plans – owing to their shared religious ideology, secrecy, and focused task preparations.

All through the developing and preparation of the 9/11 terrorist group, al-Qaida provided essential financial resources for living and travelling of the group members. Tragically, the group was highly effective and more or less accomplished the taskforce goals.

Palo Alto Research Center (PARC) and the Development of the first personal computer (Bennis and Biederman, 1996).

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[9] The cell may have consisted of as many as eight members, with others playing logistical or other roles in the 9/11 hijackings; what is certain, though, is that these four were the core of the cell (Gastil, 2010, Chapter 1).

PARC, a research and development adjunct (from 1970) of the Xerox Corporation, was established with about 50 persons to create a personal computer. From their networks, two key people at Xeros (Alan Kay and Bob Taylor) recruited in a meticulous way people with demonstrated intelligence and creativity – but the recruiters also believed that collaborative skills were especially important for the type of systems-oriented research such as PARC would be undertaking.

The group was designed to be non-hierarchical at the same time that the management of the group developed and applied a strategy to deal with conflict among members and predispositions to become prima donnas. A norms was legislated by the leadership, insisting on sharing information, and on a regular basis; open weekly meetings were mandated for the group. At the same time, people participating in PARC acquired a great feeling of emotional excitement, and became highly devoted to the group and to the task, sensing that they were involved in a major cause for humanity.

Management worked to assure that the group had the right tools for their work – or allowed them to create these for themselves if they were not available elsewhere. It managed on a sustained basis to persuade the top management decision-makers of the urgency of PARC group and performance needs and obtain financing and other resources for the group.

The group succeeded with its challenging task, creating the first PC, the "Alto," which had many of the features that are standard in PCs as we have come to know them – bit mapping, a graphical user interface, pop-up menus, and the mouse. In addition, the group developed the first easy-to-learn word processing program, and the first laser printer. As it turned out, XEROX decided not to develop the Alto commercially, and it came to be developed by Apple and other companies including IBM.

C. Multi-agent Negotiated Group Formation.
Transition toward Group Governance of Palm Oil Production. In the late 1990s, the WWF developed its "Strategic Action on Palm Oil and Soy" because it concluded that the expanded production of these two crops were responsible for the rapid conversion of the world's major virgin tropical rain forests and dry savannah forests into croplands (Nikoloyuk et al., 2010). For the WWF, there were connections between everyday consumer products (such as margarine and fats, found in thousands of products) and the destruction of the rainforest through the expansion of palm oil plantations. In 2002, the WWF mobilized industry actors (palm oil processing and trade companies, financial players, and retailers and food manufacturers, among them Unilever, Body Shop, and major plantation owners, NGOs, among others) to negotiate the formation of the "Roundtable on Sustainable Palm Oil" (RSPO). After two years of discussion, investigations, and negotiations, RSPO was formally established it in 2004 as a non-profit Swiss association. Members provided resources such as, of course, funding, expertise, meeting venues, etc. Unilever provided a CEO to lead RSPO. A RSPO rule regime was articulated and adopted and legitimized by the membership. It concerned membership, governance arrangements, regulatory programs, standards of certification, and more. In particular, a rule complex for certifying "sustainable palm oil" was agreed upon, to ensure that palm oil plantation expansion and production would not be based on destruction of Malaysian or other rain forests. This purely private association and its governance system – established in the face of solid evidence of a lack

of reliable government policy – is still functioning but has its limitations as well as potentialities for further development (Nikoloyuk et al., 2010).[10]

Large numbers of groups behave in the ways described above not only in their formation process – with the mobilization of people and resources and the construction or adoption of a rule regime -- but their functioning and development or possible demise.

In each of the group cases briefly presented above, one can see the outlines of the multiple processes of group formation:

- The agent or agents involved in group formation whether through spontaneous self-organization or through more formal multi-agent negotiation illustrates the formation of the three key subsystems of groups
- the recruitment (or self-recruitment) of members and the establishment of an agential base of membership oriented ideally to the group and to implementing its rule regime and possessing the capabilities to perform group norms, roles, and production functions.
- the construction of a group rule regime (or adoption of a more or less ready-made regime as in Doc's gang or the Xerox/PARC group) defining roles, role relationships, and key production functions (including recruitment and socialization). Many particulars of the regime are incorporated as the group performs, adapts, and develops.
- the mobilization of material and technical resources for a group's resource base utilized in group functioning and performance.

In the following sections we focus on defining unique properties of diverse group systems, such as their particular membership and agential bases, their rule regimes with characteristic group rule configurations and productions functions, and their particular technologies and materials which they utilize in their activities and productions. Group bases and production functions may be established and persist under relatively stable internal and external conditions. *Of particular interest is the degree of coherence of group bases, rule regimes, and its production functions. Rule coherence and compatibility is a major factor affecting group social order, performance, and sustainability.*

3. Summary and Implications

A group is conceptualized here as a complex, partially open system (Burns et al, 1985; Scott, 1981) with a particular sub-systemic order and certain action and functional powers, able to varying degrees to act or operate in and on the world and reflexively on itself. Group powers and social order derive from the three subsystems or group bases: the shared rule system, its resource base entailing group control over or access to resources and technologies used in its functioning, and a membership knowledgeable and capable of adhering to and applying the rule regime, and utilizing the available resources in these applications.[11]

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10 Another association, The Forest Stewardship Council (FSC), is one of the most recognized cases of a major group constructed by multiple private actors in order to establish and enforce rules to protect forest commons. FSC was constructed through multi-agent deliberations and decision-making as in the case of RSPO.

[11] Among others, Bales (1950:33), working in collaboration with Talcott Parsons and a leading group researcher in sociology, defined a small group as "any number of persons engaged in interaction with each other in a single face-to-face meeting or series of meetings in which each member receives some impression or perception of each other member distinct enough so that he (or she) can either at the time or in later questioning, give some reaction to each of the others as an individual persons). Fine (2012:160) provides a more contemporary conception: A group is an aggregation of persons in a shared action space (place), with a common identity, temporal immediacy, collective

In sum, our systems model identifies universal features of groups, their three subsystems, the rule categories and production programs that are found in every human group, the impact of these on groups themselves reflexively (self-organizing and self-reproducing/transforming) and on their social and ecological environments. Each and every group also has unique features which differentiate it from other groups, their particular memberships, their particular technologies, and, above all, the particular rules with which a group fills the universal categories and which serve to characterize group "logic". The theoretical model provides a point of departure for researchers to comparatively describe and analyze group capabilities, functioning, and effectiveness in accomplishing or realizing group values and requisites in a given material and social context.

Arguably, the work presented here is important for several reasons:

(i) The study of human groups belongs to the core of sociology (Fine, 2012; Homans, 1951; Zelditch, 2013), and this work is aimed at contributing to that core knowledge and its accumulation (see footnote 2, page 3).

(ii) The present work on the human group continues a long tradition of considering groups as *social systems*,[12] but it does so with new sociologically derived systems concepts and tools such

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culture or "idioculture," and established social relations. He also distinguishes between enduring groups as opposed to momentary groups. For instance, experimental groups are evanescent group constructions but without established identity, commitment, or a past (Fine, 2012). His conception fits *to a certain extent descriptively* with ours, but our conception brings the tools of a sociological systems approach to the task, for instance, the rule regime conceptualization corresponds to a limited extent to his idioculture but includes" the rules of established social relations" as well as cultural algorithms, the rule complexes of human actors (individual as well as collective), and the social rules relating to distinguishing and utilizing material conditions (resources) in action.

[12] An earlier systems model of group or social system was formulated by Talcott Parsons (1951): the well-known AGIL model which specified four universal functions of groups and social systems: (A) economic and material production or "adaptation", (G) goal-orientation which entailed group or social system selection of goals and values, (I) integration or group maintenance, and (L) "latency" or cultural and rule patterns. A more abstract model of systems, "self-reproducing automata," was formulated by von Neumann (1966). It had only three production functions: manufacturing, copying, and reading/implementing the rule regime (or code book); the "codebook" could be interpreted as corresponding to Parsons' Latency function. On the other hand, Parsons gave more attention than von Neumann to "change", even if he never developed this. Parsons had an explicit "adaptation" function as well as "goal-orientation" that could, in principle, result in shifts in goals. Von Neumann's system was designed to follow a *fixed* codebook, but then he was concerned only with modeling reproduction. It is worth noting parallels between von Neumann's and Parson's systems:

- Parsons has no explicit rule regime. Von Neumann has a codebook/rule system.
- Parsons and von Neumann have production systems: "factory" for von Neumann, "adaption" function in Parsons but the latter has no explicit production as does von Neumann.
- Von Neumann specifies the function of "copying of the codebook"/rule system. Although Parsons has no such specification, he sees "latency" as entailing renewal, the maintenance of cultural patterns and can be loosely interpreted as copying rules or a codebook.
- Von Neumann has a "governor" (a type of leadership) function that reads the codes and feeds the information into the manufacturing and copying activities.
- While Parsons does not have resources and technologies explicitly in his framework, von Neumann identifies the technologies of "copying" and manufacturing.
- Neither theorist took into account the natural environment as a factor, but von Neumann assumed a given resource "sea" with sufficient, essential raw materials, spare parts, construction and repair robots (capable of manufacturing all the machines that compose the automata).
- Parsons has explicit goal orientation or achievement, while this is tacit in von Neumann. In the latter's model, reproduction is the object, and he models what he considers the basic logic of self-reproduction.

as rule regime, rule configuration, production function, governance arrangements, human agency, innovation and adaptation processes, transformation, and more. George C. Homans (1951) was one of the first sociologists to conceptualize groups as social systems (the group as an "organic whole"). The Harvard colleague of Homans, Talcott Parsons and his associate Robert Bales (Parsons et al, 1953) also applied and developed system conceptions in relation to group conceptualization and analysis. Later, most sociologists unfortunately largely abandoned systems approaches, at least on the micro- and meso-levels of research (for an overview and discussion of a selection of macro-societal applications of system thinking see Burns (2006); Burns and DeVille (2007)). A number of psychologists, on the other hand, have persisted and elaborated and applied diverse systems approaches to the analysis of social groups (in particular, Arrow et al, 2010; Gaspin, 2010).[13]

Those adopting a systems perspective to approach the conceptualization and analysis of groups and group behavior have typically stressed the complex interdependencies and the dynamics of groups. For instance, Homans (1951) remarked that the members participating, their activities, interactions, and sentiments are bound together, and interdependent, making up a "social system" with an environment. He (1951) stressed the interdependence of variables (while others emphasize the interdependence of subsystems and parts (Parsons,1951; Buckley, 1967; Burns et al, 1985):[14] "As a social system, consisting of sets of interdependent variables, change in one element leads to change in the other element and the interdependent relation between them. Change in group systems can be explained by changes in the components of which they are composed and/or by changes in the relations of the components to one another." For instance, Homans suggested that group leadership is a function of the dynamic relations among group interaction, norms, group activities, and sentiments. Along similar lines, Arrow et al (2010) have viewed groups as complex, adaptive, dynamic and bounded systems, a set of patterned and interdependent relations among members, tasks, and tools making up the social systems embedded within physical, temporal, socio-cultural, and organizational contexts. In general, those making use of a systems approach stress the complex, dynamic interconnections within (and outside the) group considered as a system functioning in and open to a complex environment ("open systems" (Scott, 1981)).

(iii) Our point of departure is the sociological multi-level, dynamic systems framework (actor-systems-dynamics (ASD), which has been developed and applied in a wide variety of institutional as well as societal analyses (Baumgartner and Burns, 1984; Baumgartner et al, 1986; Buckley, 1967; Burns, 2006; Burns et al, 1985; Burns and Flam, 1987; Burns and Hall, 2012, Carson et al, 2010, among others). In this paper, we formulate a systems model of social groups, identifying the finite interdependent parts that constitute and characterize all groups − within their material and social contexts. We claim that this social systems approach can be fruitfully applied to conceptualizing small as well as large groups − their structures, key processes, and

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[13] Also, several other psychologists utilized systems approaches in related work concerning the conceptualization and analysis of creativity and innovation in communities and organizations: in particular Csikszentmilhalyi (1990) as well as Sawyer (2006, 2012), and Puccio and Cabra (2010), among others (see the Handbook of Creativity, 1998). The group system theorists and the creativity system theorists do not appear in the field of psychology to recognize or to acknowledge one another's work.

[14] He pointed out such interdependencies as "sentiment and activity,"""sentiment and interaction", "mutual dependence of involvement rules and sentiments toward the group", "social ranking and activity".Our approach stresses identifying the complexes of rules and their context of activation and interpreatation underlying these.

functioning.[15] It enables the characterization and comparative analysis of very diverse kinds of groups that are usually considered distinct and investigated by specialized and fragmented communities of scholars. The sociological systems approach is "tested" here in a substantially different social science field, namely groups and their behavior.

What distinguishes the approach is not only the systems perspective identifying key subsystems of a group and their interrelationships but the conceptualizations of rules and rule complexes (and their derivatives in roles, role relationships, norms, procedures, rule configurations characterizing a given group, and production complexes or programs). The analyses consider particular properties of rule systems such as rule complex compatibility and coherence.[16] Also important in our analyses is the adjustment, adaptation, and negotiation of rule complexes (Buckley,1967; 1998; Flam and Carson, 2008; Burns and Hall, 2012).

(iv) Such a new approach in the field of groups is likely to stimulate and challenge established approaches in the area which have developed very different theoretical and methodological foundations than those related to a sociological systems approach.

(v) This work promises to overcome some of the fragmentation characterizing sociology and social science generally (identified by, among others, Fligstein and McAdam, 2012). In other words, it may contribute to greater "synthesis" in sociology and social science. It does this, in part, by describing and analyzing groups in terms of a general theoretical and methodological language and major social science concepts such as agents, their social relationships and structures, their interactions and exchange and control mechanisms, their resources including technologies, and their functioning and impacts in a given social and ecological context. In the application here, the systems model enables a type of universal theorizing (group subsystems, finite rule categories, and production functions) combined with a differentiating, particularistic theorization (in particular, the unique rule configurations and rule complexes of groups). Thus, from a single perspective, the similarities and differences among many social groups are readily identified, compared, and analyzed by means of:
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- The universal bases of all functioning groups
- The universal properties of rule regimes constituting and regulating group activities
- Group universal production functions.

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[15] Whether ASD qualifies as a "research program" (see Berger and Zelditch, 1993; Zelditch, 2013) on research programs) is an unanswered question, but it might qualify since it has persistently and coherently conducted theoretical and empirical research on the universal processes of human construction of, and participation in, social systems and their evolution. And it has resulted in a variety of studies on social organization and institutions, socio-technical systems, meta-power and relational control, judgment theory and risk, sociological game theory, human consciousness and cognitive studies, socio-cultural evolutionary theory, public policy paradigms and their transformation, energy and environment, among others (for an overview, see Burns, 2006a)

[16] In a rule system perspective, rule coherence is a key concept. There are several types of coherency: coherence with respect to an overarching principle or idea, or coherence with respect to group identity, coherence with respect to group functioning, or coherence with respect to the sacred origin of group rules. Dealing with this complexity is a challenge. One can takes pieces of a rule regime, for instance, role, role relationship, production complex and explore their degree of coherence (see Appendix). Or, more concretely, one can take an academic program and assess its intellectual coherence for the students taking the courses. Do the course requirements make sense in relation to one another and in relation to the ultimate product, a student graduating with a certain knowledge and performance capability. Finally, one might make an assessment of the coherency of the entire program.

- The universalities as well as the particularities of group rule configurations and rule complexes that provide a systematic basis to distinguish and compare analytically concrete functioning groups.

II. SYSTEM GROUP MODEL[17]

Generally speaking, a group is an organizational arrangement with some degree of division of labor and characterized by group purposes and goals as well as normative order. It is structured by its three (3) subsystems: an agential base (a population or membership of individuals and/or collectives), a shared rule regime/cultural base, and a resource base.[18] A group, drawing on its three bases, produces particular patterns of interaction orders and outputs/developments. The group bases/subsystems complement one another. Although they are usually to a greater or lesser extent compatible, they entail to varying degrees gaps and inconsistencies, in part because the construction and development of groups are typically piecemeal, historical processes. The bases enable constituting a particular group in a given context and assure group functioning and performance outputs according to the group's shared conceptions, values, and norms.

1. **Group Social Action and Interaction Bases, Their Output Functions, and Contexts**

The multi-level systems model (see Figure 1) distinguishes group context(s), the three essential group subsystems or bases, the group productions and outputs (its "functions"), as outlined below.
Context(s): These are the situations/domains in which the group functions and performs. Also, it (they) are the sources of resources on which a group depends. Obtaining access to appropriate interaction situation(s) and obtaining essential resources depends on group knowledge, strategies and powers based in part on the shared rule regime.

A. **Agential Base**
- **A set of agents** with particular qualities, knowledge, and skills make up group membership. They may have formed the group themselves or been selected by others to compose the group (see later discussion on group formation). The number of members or the scale of the group is a variable having well-known implications for the rule regime, resource subsystems, and group organization and coordination.

- On the basis of the rule regime and available resources, group members act, produce goods and services for themselves and for others, follow and change rules, select and socialize new members. Group members are distinguishable in relation to one another terms of variation in their positions (including authority and status positions) and in their group knowledge and performance capabilities. Such knowledge and capabilities include

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[17] The systems model is a theoretical construction, a general systems representation of groups, their subsystems, architectures, their multidimensionality, dynamics and sustainability/reproducibility.
[18] This conception derives from a general model of collective action systems and the necessary and sufficient conditions for collective action.

knowledge about the rule regime, practical knowledge about interaction in the group, and knowledge about the use of group resources and technologies in actions and interactions.

◼ Members' involvement in and obedience to the group, its leadership, and its rule regime typically is based on multiple factors, including, of course, sanctions, possible symbolic significance of the group, and friendships. The model distinguishes between motivational bases as diverse as affinity/intrinsic attraction, remuneration, and coercion as well as combinations of these; in general, through a variety of means and motivators, members' attachments, adherence, and obedience may be established (see Fine, 2010:166).[19]

◼ Members may exhibit varying degrees of creativity and innovativeness. They interpret rules, adapt, and reform the rule regime as well as agential and resource bases.

Group members are typically *group-socialized* individuals and/or collective agents who are *carriers, reproducers, and potential transformers of the rule regime; they collectively have* knowledge about and capabilities to establish and maintain the agential, resource, and socio-cultural subsystems of the group. Socialized members are oriented to and to a greater or lesser extent committed to the group rule regime, its identity and status, the leader(s), and/or particular members.

Affinity groups are based on members experiencing some form of intrinsic attraction through, for instance, friendship, kinship, ideology, enjoyment of pleasurable games, or "fun", etc.[20] They are attracted to, and through diverse group mechanisms, bound to a greater or lesser extent to the group. Affinity groups provide members with identity and status, normative meaning, a sense of belonging, moral support, information, training, resources (goods and services), and aid.

As indicated, groups may also be constituted and sustained through remuneration and even coercion as a basis for members' acceptance of, and adherence to, the group order. But any one of these – affinity, remuneration, or coercion -- may be particularly characteristic -- this depends in part on the resources available to the group and the way in which the group had been established and functions.

Members of a group possess to a greater or lesser extent agency. Typically, they are more than their group roles and the rule complexes that they are expected to adhere to and follow. They have roles and attachments outside the group order. They may also exhibit, or develop appropriate, sanctioned intentionality within the group – but at the same time retain intentionalities and preferences from their external engagements.

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[19] Another way of formulating this is to ask *what binds groups together and makes collaboration and social order possible or likely?* A group is not simply a collection of individuals or a network, it has an identity, a common culture or rule regime with roles, relationships, and procedures such as collective deliberation, decision-making, and common production functions. Rule regime theory raises the question: Why do persons and collective agents follow rules, show adherence/commitment to them, expect other members to adhere and show commitment to them; and act to enforce rules and to normatively promote adherence. There are, of course, multiple factors, among others: (i) Shared or convergent goals as in motivating business and political "deals"; (ii) Subjection to a normative order, e.g. family or friendship orders with potentially multiple and open-ended goals and rewards and penalties; (iii) internal sanctioning and regulation; (iv) external threat (combined with some minimal level of cohesiveness or solidarity or clear self-interest to survive (but there be, however, collective action problems and "free rider" difficulties) (see Burns and Flam, 1987; Burns, 2008).

[20] Some pressures for member involvement may be extrinsic to the group, based for instance on discrimination or threats in the social environment of the group.

B. **Rule regime Base**
The group rule regime base entails cultural/institutional rules and rule complexes (see footnote 5; Burns and Flam, 1987; Carson et al, 2009; Flam and Carson, 2008, among others).

■ A **shared rule regime** defines value orientations, group membership and recruitment, group social relations including those of authority and status, interaction situations, appropriate resources for group activities, appropriate production functions, times and places for interactions and performances and more.

Any functioning group has a more or less shared, inter-subjective rule regime (culture, relations, identity & symbols, symbol systems). The rule regimes serves multiple uses or functions, in particular (1) *action and interaction scheme* structuring and regulating roles, and role relationships, coordinating and directing/guiding the group, its agents in their roles, productions and performances; (2) *cognitive framework* defining or specifying what is going on and possibly what will go on in the future, which members (and possibly some outsiders with regime knowledge) understand; (3) *a base of group normative discourses*, that is, referent in giving and asking for accounts, generating discourses about appropriate and inappropriate behavior, or giving, for instance, praise and of critique.

A "group rule regime" is constituted, develops and evolves over time as a result of agential, resource, and output developments. The finite universal categories of rules that make up a rule regime are specified in section V in Tables 1 and 2 and concern, among other things, identity, member involvement/recruitment, roles, role relationships, norms, group procedures, leadership, authority, production functions, and more.[21]

A group's system of rules is a key subsystem of all functioning groups. Rules and rule systems serve at least three basic functions in all social life: (1) coordination/direction of social action and interaction; (2) understanding/simulation of what is going on or will go on in the future, and (3) The rules making up rules regimes consists of three qualitatively different kinds: descriptive or declarative rules describing or defining reality, action or directive/regulative rules, and evaluative rules defining what is worth-while, good, valuable (or their opposites, "bads").

A group rule regime contains a variety of rule complexes and sub-complexes critical to group arrangements, functioning, and performance.

■ Among the rule complexes in the rule regime are: normative orders, roles, role relationships including leadership relations, collective decision algorithms (administrative and adjudication procedures, collective deliberation and voting procedures), cognitive

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[21] Fine (1987:125) introduced a similar concept of "idioculture" consisting of a system of knowledge, beliefs, behaviors, and customs shared by members of an interacting group to which members can refer and that serves as the basis for further interaction…members recognize that they share experiences, and these experiences can be referred to with the expectation that they will be understood by other members, thus being used to construct a social reality for the participants. Fine (2012:168) points out, "This collective meaning system creating identification and control has been referred to as idioculture, microculture, and small-group culture. These cultural systems separate group action from untethered interaction, which lacks affiliation and history, and from large organizations in which social action and affiliation occur through a more formal process. Meaning derives not from interaction as such, but through continuing interaction, suggesting that commitment to the culture and the recognition of boundaries provide mechanisms by which idioculture builds order."

framework for making distinctions, categorizing, activity and production complexes (which are activated and performed in appropriate times and places, or decided by the leadership or the collective as a whole).

■ A key complex is the group rule configuration which specifies key rules characterizing any given group,[22] rules such as purpose and goals, membership conditions, identity, belief systems, cognitive perspectives, social relational principles, procedural and production rules, rules for changing groups bases or subsystems including, in particular, the rule regime itself (these configurations are specified and illustrated later).

■ Group rule regimes contain production rule complexes or systems – constructed or emergent – and serving purposes of production & group activities (see below).

The rule regime (for instance, the rules of universal rule categories (see later)) may not be fully specified in all group situations (see Section III). Typically, the process of "institutionalizing" a group entails a multi-phase process of specifying and elaborating rules in the different categories – and also revising and reforming them. Long established, highly institutionalized groups and organizations usually have rules specified in all categories. But, generally speaking, this is an empirical question. Disruptions in the evolution of a group may occur as a result of internal and/external political, economic, technological, or other social disruption. Social rules in particular categories that were taken for granted earlier may no longer be accepted or applicable. Hierarchical relationships (with rule specifications appropriate to such relationships) may be transformed into more egalitarian relationships. Or the values and norms considered appropriate for the group (whether a family, religious community, work organization, or political association) may be shifted, or reformed and prioritized in substantially different ways.[23] In general, the shifts occur in a group over time concerning values and goals, the agents defined or considered responsible, the appropriate means or strategies, production functions, among other key changes.

There is structure or architecture to a rule regime. It is not simply a "laundry list" of categories of rules applying to social groups. A rule regime consists of finite universal rule categories whose particular rules constitute and regulate group social organization and processes, and are sanctioned by group and leadership powers.

A group's regime may incorporate (or stand opposed to) more encompassing rule systems, e.g. rules discriminating against certain classes or categories of people (exclusion/inclusion rules) on grounds of religion, ethnicity, gender, age. Or, the group establishes and operates with rules opposed to other groups or categories of people in its environment or the larger cultural-institutional context. In general, groups with their particular rule regimes or cultures including values and norms, technologies, and material resources typically distinguish themselves from the prevailing regimes in the larger society and from one another.

A group rule regime is not a single, fixed architecture, although for the purposes of a particular static analysis, we may treat it as such – it is a culture distributed among members (Hannerz's (1992) "distributed culture"). There may be also multiple overlapping regimes in a

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[22] That is how we recognize and activate expectations about a military unit or a sports club or a political association.
[23] Shifts in the rules of public policy paradigms and their institutional arrangements governing particular areas of policy and regulation have been identified and investigated in Carson et al (2009).

group associated with sub-groupings within the group. For instance, there may be some variation in their value or goal complexes, in their level or quality of involvement/engagement, or in their conceptions of roles and role relationships, e.g., the degree of hierarchy or equality. Of course, this relates to questions of incoherence and groups tensions and conflicts (see later discussion).

The rules, when applied and implemented, relate to concrete empirically observable actions and interactions. A rule regime guides and regulates group behavior to a greater or lesser extent. But there are other factors that influence the behavior of a group and its members: material context, situational contingencies, members' interpreting and adapting rules in their application or innovating and transforming them. And, the application and implementation of the regime in a given context may fail, the group falls apart or tries to revitalize itself through adapting or transforming the regime as well as possibly the group agential and resource bases.

C. **Group Resource Subsystem.**
- **Resources** (materials, technologies, built environments, infrastructures, and socio-technical systems generally) which the group has control over or access to and are used in group activities, interactions and outputs, dealing with the group environment including agents in that environment, and conducting rituals and ceremonials. Resources are distinguishable in terms of their particular properties and their use in group activities and productions.

The group resource base consists of tools, materials, and other resources essential for the performance of key group activities including control and sanctioning activities and group reproduction. For instance, access to location(s)/appropriate situations for key activities; technologies for group assembly and performance (materials, tools, and symbols, and built environments (buildings, waterways, stadiums, arenas) for the group to do what it is committed to doing, realizing its identity, its key meanings, and possibly meeting demands from the environment). Resources are defined/conceptualized and their exploitation and use entail rules integrated in the rule regime knowledge.

The resource base may be either self-mobilized or provided by an encompassing organization, e.g. a corporation or political party in relation to its purposes, its activities and particular procedures. Group members control resources some of which they regularly pool (for instance, in time of a crisis). Some resources are controlled by the collective (in practice by its leadership or collective decision): [24]
- The group's members are human resources and the group itself is a resource: sources of expertise, skills, individual and collective knowledge , action capabilities or powers of the group itself and its members.
- Material or economic resources which the group possesses or has access to; socio-technical systems, built environments, technologies and material resources

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[24] Corte (2013), drawing on resource mobilization theory (McCarthy and Zald 1977; Edwards and McCarthy 2004), refers to (1) human resources (labor experience, expertise, skills); (2) material resources (money, equipment); (3) moral resources (solidarity, support, tolerance); (4) locational resources (climate, local economy, cultural history and symbolic significance of the place). However, human resources are part and parcel of the agential base. Material resources are part of a group's resource base along with appropriate technologies, built environments, and socio-technical systems. Moral resources are part of the rule regime with the group values, norms, and rituals as well as incentive and motivational structures for gaining the commitment/involvement and solidarity of the members. But normative and moral factors such as norms of tolerance and fair play, values of creativity, readiness to recognize another's good performance are part and parcel of the rule regime. Locational resources such as action space(s) are part of the group resource base obtained through choice of place(s) (or, instead, the choice is made for the group).

- Environmental resources (land, water, etc.) including appropriate settings or locations. Capabilities to assure a level of integration, resolve conflicts (cohesiveness, solidarity, mutual support, tolerance)

D. **Group Output or Production Functions**

A social group is not only characterized by its three bases but by its concrete practices and "outputs": its interactions and productions/performances and their outcomes, developments including the impact of their productions on the group itself (reflexivity) and on its environment (see Figure 1). These outputs, among other things, may maintain/reproduce/develop core group bases (or possibly unintentionally undermine or destroy them).

Thus, groups can be understood as action/interaction systems producing goods, services, incidents and events, experiences, developments, etc. for themselves and to a greater or lesser extent for the larger environment on which they depend for resources, recruits, goods and services, and legitimation, etc.

This section focuses on rule based complexes for group activities and productions. Each production complex (possibly with a specific name) defines or draws upon appropriate action programs in the rule regime and defines the actors who are to participate in specified roles in any given program and specifies the resources (materials, technologies) they are to deploy in the action programs. In our discussion below we identify several production complexes or programs (combining activity rules and routines, rules specifying group members in designated roles, and rules defining appropriate resources).

A **production complex** contains such rules as: (1) the key rules or complex of rules of an action program for a production process, any group collective activity, or group function, for instance relating to group purpose(s) or requisites; (2) rules specifying the appropriate actors/members (typically specifying their roles and tasks in the action or production); (3) rules designating the appropriate resources (materials, technologies) deployed in the group activities; and (4) the appropriate time and place rules for the activities. Among the activities/outputs we discuss later in more detail are production functions relating to group purpose(s) and to group requisites (governance, leadership patterns, recruitment, other reproduction functions).

Each production system or configuration (possibly with a name) defines or draws upon appropriate action programs in the rule regime and defines actors who are to participate in specified roles in any given program and also specifies the resources (materials, technologies) to be deployed in the action programs. In our later analyses we identify different key production configurations(combining activity rules and routines, group members, and resources).

Groups vary in their repertoires of production functions not only because of their diverse purposes but because of their different conceptions of group functioning and longevity. Groups expecting to only endure a short time do not engage in a wide range or diversity of production activities that typically concern – and are essential to -- groups with long-term longevity and sustainability beliefs (see section V). Put another way: groups that see themselves as having longevity -- that they will endure and be sustainable -- have elaborated production function repertoires in order to realize or accomplish *group requisites* for long-term survival or sustainability (to be discussed in the following section).

Production functions, as rule complexes, vary in their degree of specification, organization, and coherence. For instance,

(1) Some are highly organized and routinized complexes/algorithms combining group members in particular roles with specified tasks and resources to produce/perform certain activities and accomplish certain outputs.[25] For instance, a rule-defined-task-actor-resource complex.

(2) Or they may be relatively open and flexible but nonetheless serving as a frame for conceptualizing, organizing and regulating key group activities (production processes, collective judgment and decision-making). Examples are:
- Rough incomplete complexes/algorithms allowing participants to fill in some of the unspecified or unknowns.
- Actors in specific roles with specified tasks are left to work out how best to perform or realize them (high discretion). Consider earlier model of judicial process of what laws and procedures are to be taken into accounts.

(3) General heuristics and problem-solving modalities – with or without specifications of which members (or possibly outsiders) are to be involved.

(4) Trial and error and experimentation

(5) General strategies to deal with particular types of problems

Highly specified and organized production functions can be activated and performed routinely if the context is appropriate. More incomplete, underspecified production functions (such as those made up mainly of heuristics and "rules of thumb") have to be worked out by the group in practice, which typically entails some form(s) of collective judgment and learning processes, even trial and error. Even in the case of a well-developed production function – when it fails because of contextual conditions, agential mistakes or ignorance, or technological limitations – another level of problem-situation and uncertainty confronts the group, and the group's likelihood to reform or possibly replace the function or some of the people or the technology increases. Such situations arise also in action settings which cannot be defined or appropriate response determined within the perspective of the group regime.

In sum, repertoires of group production functions range from well-organized group algorithms through relatively open and flexible rule complexes to heuristic principles for social action to only vague ideas of purpose and means; nonetheless, the latter serve as a point of departure for conceptualizing, organizing and regulating key group activities and functions (production processes, collective judgment and decision-making, dealing with external agents and forces).

2. Discussion: Group System Model and its Properties

Our systems framework emphasizes not only the universal systemic character of all functioning groups – their three bases or subsystems and their performance/output functions together with feedback dynamics -- but also the *differentiating* particularistic character of each group's rule configuration and diverse rule complexes including production functions.
Typically, the group rule regime operates with categories of problems/challenges, causal understandings, and relevant solutions particular to the group, e.g. addressing potential group

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[25] **Organized-routinized complexes** for key collective and production processes are found in earlier work: models of administrative arrangements are found in Burns and Flam (1987), Burns and Hall (2012); models of negotiation procedures are found in Burns et al (1985), Carson et al, 2009Burns and Roszkowska (20XX); collective deliberation and decision-making/conflict resolution (Burns and Roszkowska (2008).

vulnerabilities such as problems of making decisions, coordinating, and resolving conflicts; or special issues in dealing with group boundary problems and external challenges and strategies to solve them.

The systems group model concerns universals as well as particularities. Every proper human group, which is functioning and sustainable has three bases or subsystems -- a rule regime, an agential base and a resource base – and output or production functions. Groups are distinguishable not only by the character of their bases and their output actions and production processes. Also essential in distinguishing groups are, of course, the specific contents of their rule regimes. While all group rule regimes consist of a number of universal categories – to be specified and analyzed later – the contents of each group's rule categories are particularistic, diverging to a greater or lesser extent from one another and distinguishing groups from one another, as discussed later (see also Tables 2 and 3).

The general sociological systems model distinguishes groups in terms of their three group bases, their outputs, and the contexts in which they operate. Groups are distinguishable then in terms of their specific rule regimes which constitute and organize and regulate group life, for instance concerning:

- **key production functions** relate not only to group purpose(s) but to group requisites (As we discuss later, sustainable groups have production complexes relating to essential group requisites functions (to produce, maintain, or realize group requisites of conditions).
- **The set of group actors who make or should make rules** (and change them): a single leader, a group of leaders, or the men of the group, or all adults, who participate in a deliberative and decision-making procedures
- **key norms that regulate group activities** concerning innovative initiatives in the group: for instance, regulating how much "openness" or tolerance of deviance there is in particular areas, etc.

Major points of the group systems model:

1. In the systems model, the inputs to a group system (and its subsystems) are the resources (materials and technologies) it obtains, the people it recruits and socializes, the rule system it acquires or develops (defining group purpose and values, role relations (including leadership), production programs or functions); the system outputs are the interactions, group performances, products (material as well as ideational) and impacts on its environment as well as on itself.[26]

2. Rule regimes do not operate on their own but through their incorporation in group members. The very knowledge of the regime on the part of actors influences their behavior, constraining certain actions, facilitating others.

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[26] This conception of group may seem to some unduly rigid, if not mechanical. Nonetheless, historically but also in much of the sociological profession, the concept of "group" has been and is used all-too-loosely (see Zelditch (2013:7). Of course, those specializing in, let us say contemporary small group research, are much more precise and systematic (Zelditch, 2013). But it is noteworthy that a concept so central to sociology has so many different interpretations and is used to mean so many different things to most sociologists and their imitators in economics, management studies, political science, and anthropology.

3. Technologies and material conditions do not on their own operate but impact through the engagements of human actors in group situations. However, such resources facilitate, constrain, and operate selectively on group activities.

4. A functioning sustainable group generates at least six output functions. Failure in one or more of these functions results in the risk over time of group failure and demise (see later discussion). Failure in a function may mean immediate demise, for instance in dealing with an external, destructive disaster or threat of such a disaster. Other failures such as inability to deal with growing internal tensions and conflicts which poison the group atmosphere and undermines integration and the capacity to coordinate; or, the inability to recruit new members which entails long-term risks. Hence, functional failures usually differ in their time dimension as well as in their manifestations.

5. Actors initiate actions, productions on the basis of rule directives and programs; they activate and implement production functions, complexes/programs. In the ideal case these provide capabilities/powers for the group to function effectively, internally and externally.

6. Success in performance of group core production functions increases the likelihood that the group will perform effectively and be sustained over time. Or conversely, constraints on and/or disruptions in performing effectively core production functions increases the risk of group failures, demise and extinction (see Section V).

7. Some groups operate with "complete" and coherent bases but their bases are incoherent and/or inadequate for the context and, therefore, in the absence of reforms, the group runs the risks of group mal-performance in critical areas and eventual demise. In general, the resource base is, of course, essential to rule application and production performances.

8. Many groups operate with incomplete or incoherent rule regimes, inadequate or inappropriate agential base, or inadequate or inappropriate resource base -- and, without reforms, the group runs the risks of key group failings and demise.

9. Many groups operate with multiple regimes, as discussed later. If these are coherent or if they can be effectively integrated, the group may perform effectively and sustain itself. Otherwise, incoherent rule regimes increase the likelihood of group mal-performance and failure. Groups typically try to obtain "optimal" solutions where the multiple purposes or goals and production functions are dealt with through group processes.

One widely recognized instance of groups having multiple regimes includes the front stage-backstage performance arrangements (Goffman, 1959), for instance, a public regime for show and a non-public regime (with especially constructed, possibly illegal rules and algorithms) (see later discussion of Goffman's frontstage and backstage distinction – conceptualized in our terms as distinct but related (and contradictory) rule regime configurations.

10. Group actions and productions are typically oriented to the values and goals of groups. These are multiple: (1) a group's common goals or purposes are specified in the shared rule regime,

specifically, in their particular group rule configuration (see later discussion).[27] (2) Some group value orientations and purposes are derivative -- they derive from *group systemic requisites*, namely conditions/states which the group must realize or maintain if it is to endure or be sustained in its social and ecological particular context. These value orientations are included in the universal rule category for purposes, values, and goals ; (3) groups may also provide a context/activity sphere where some of one another's wants or needs are satisfied, by particular group production functions or programs or through bilateral or multilateral exchanges among members.

11. Groups lacking the function or capability to take in and process information about their context are unable to effectively adapt their rule complexes, in particular their core production functions, and run a high risk of failing in key performances and in group sustainability relating to group systemic requisites.

III. GROUP FUNCTIONING AND SUSTAINABILITY

1. A Finite Set Of Universal Production Functions

Any group which is enduring, sustainable over time must maintain, self-regulate and reproduce its bases (the subsystems of collective agency, rule regimes, and resources). These are the group *sustainability requisites* in our systems model. The requisites are conditions which typically must be produced or realized if the group is to endure or be sustainable over time (see Table below).

Groups that are to endure -- be sustainable – must contain in their rule regime and implement the six production functions that accomplish or satisfy group requisites (see table above and the presentation of the functions in the earlier table). One or more of the production functions may be performed by other agents – that is reproduction and sustainability depend on other agents: for instance, a higher level unit which has set up and maintains/sustains the group; or the group controls external agents which carry out the production functions for the group.

In the case of enduring, sustainable groups, group activities must, in general, produce and maintain and reproduce the group and its agential, rule regime and material resource bases as well as carry on activities essential to the internal and external functioning of the group. This entails at least six (6) universal system production requisites and outputs: (1) the production function that generates materials, products, goods and services, in particular those relating to group purpose(s); (2) internal governance and regulatory function; (3) external or environmental governance function; (4) the function of maintenance and reproduction of the core group subsystems or bases; (5) the collective judgment and decision function; (6) an adaptive or innovative function. Such production activities are accompanied by communication, including normatively oriented communications, discourses, and narratives; group members refer to established "facts", regime norms, roles, production functions, performance standards and

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[27] Swedberg (2005:3) points out the differentiation in group conceptions and actions toward objects as a function of their purposes or goals: a recreational club chops down a tree as a form of their recreation like kicking a football around. On the other hand, a logging company order a tree (or typically many) to be chopped down as a way for making money (the logger doing the work earns wage labor). A military or terrorist group chops down a tree to block the road or movement in the forest as part of their defense strategy.

expectations in making assessments, giving accounts, and distributing criticism and praise. These communications are particularly associated with the internal governance and regulatory function.

Table 1: Group Production Complexes and Functions

FUNCTION	PRODUCTION COMPLEX IN RULE REGIME
Group purpose function	Group Purpose Production Complex
Reproduction function (for instance, of group bases)	Reproduction action complexes
Internal governance and regulatory functions	Governance production complex (monitoring, correcting, sanctioning – arrangements for governance and social control processes)
External governance and regulatory functions	External governance production complexes (dealing with defense, exchange, cooperation, conflict)
Collective judgment & decision-making functions	Production Complexes for making collective decisions (implementing arrangements for deliberations, decision processes (administration, leadership, voting, etc.))
Adaptation and innovation functions	Adaptation and innovation production complex for group purpose function and group bases

Key group functional activities and outputs – the level of performance and degree of effectiveness -- vary substantially among groups. Some groups – for example, those created to carry out an immediate or short-term task(s) – typically do not require all functional productions. Such groups are not expected to endure but to terminate or phase out after the task(s) are completed.

These distinctions in group functions or operations are analytic ones. In practice, the activities and performance associated with these functions may be combined in practice; two or more functions may be inter-linked in productions, and several considerations (values, purposes, goals) are taken into account in the activities at the same time. For instance, socialization associated with reproduction is often combined with internal governance and even production function activities.

The actions/productions which realize or satisfy group sustainability requisites may be produced by the group itself or by external agents, or by combinations of both. In the case of pure self-sustainment, the group performs to a greater or lesser extent the six universal production functions. In the case that external agents are involved in group sustainability through the realization of some group requisites, there are two modalities: In one, the group is dependent on the external agents, and complies with demands that the latter may make for satisfying – or helping to satisfy – their requisites; in the other, the group dominates the external agents and demand that these agents contribute to realizing their group requisites. For instance, in the first case, high level administrative or control agents carry out some subset of the production functions, at the same time requiring the subordinate or dependent agents to perform designated production functions -- as in several of our cases presented later in Table 2: the military unit, the business unit, and the terrorist cell (see Section III about the formation of such groups). In these cases the groups are dependent for their sustainability largely on the support of external agents – and this arrangement is usually predicated on accommodating the demands of the external agents, mediated by remunerative or coercive forms of power; also, dependent groups may manage to persuade external agents to support them, exercising a type of normative power over them (Burns and Hall, 2012). [28]

Or, a group may maintain and sustain itself by dominating relevant agents in its environment, demanding that these agents satisfy or realize the group's purposes and requisites. Its domination and the power of its demands may be based on remuneration, coercion, or normative power. Thus, it can realize some of its purposes and requisites (essential resources, member recruitment and socialization, even adaptation and innovation in production functions and other rule complexes).

In sum, for purposes of analysis, we distinguish three group situations relating to maintenance, reproduction and sustainability (see cases in Section I):

Table 2: Group Conditions of Maintenance, Reproduction, and Sustainability

	Self-maintaining and self-reproducing (This corresponds at least initially to self-organizing group formation presented in Section I)	Group Domination of external agents, inducing these subordinate agents to realize or satisfy its purposes and requisites	Group Dependence and subordination on external agents who satisfy or realize its requisites conditionally (This corresponds to our category of externally constructed or legislated group

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[28] A large number of civil society groups and associations are supported by the Swedish State. For instance, most ethnic groups in Sweden are typically able to obtain state subsidies. Application requires that one or more purposes be identified. Eventually, following proper application procedures, a group obtains a subsidy from the state – typically requiring formalization. At the same time, the group shifts toward orienting itself to obtain the Swedish state subsidies that maintain, in part, the group. At the same time, a sufficient resource base enables the group to elaborate its purpose(s) and production functions.

	Six production functions are operated by the group with long-term sustainability (of course, some essential materials and technologies and people may be obtained from outside the group through exchange and/or theft)	The group remunerates, coerces, or persuades external agent(s) to perform one or more of the production functions enabling group sustainability.	formation) One or more essential production functions are controlled by external agent(s), enabling them to determine group longevity and sustainability in exchange for payment, political support or normative homage.

Group productions are discussed in more detail in the following paragraphs utilizing the analytic distinctions in universal group functions and outputs -- in practice they may be combined.

(1)**Group purpose function**. Group production (and interactions essential to this production) is oriented, on the one hand, to realizing group values, ideals, and purposes prescribed in the group rule regime and, on the other hand, to meeting environmental demands and needs through extraction of essential resources from the environment and exchange with others (whether through reciprocal exchange or coerced exchange) to obtain materials, technologies and artifacts essential for key group activities (and possibly group sustainability).

(a) That is, such a production function often concerns material resources as well as "goods and services" for the group itself (and its members) and for others with whom the group exchanges in the environment, that is, for group consumption as well as to meet the expectations or demands of outside groups (customers, tax authorities, communities and NGOs and other stakeholders).

(b) Production of identity: group representations (among other things, logos), clothing, hair, rituals and other symbolic actions as well as necessary materials and technologies.

(d) Production of spiritual and symbolic goods (representations and means) and performances through dance, music, theatre, and diverse rituals, "fun and games."

(e) Production for self-consumption and enjoyment but not necessarily related to core group productions or sustainability: these may be jokes, "fun" activities, games, internal discourses, collective therapy, education, training, special artifacts and technologies.

(2) **Governance, regulatory, and management function (of group resources, agents, productions, and the rule regime)**. Agents involved in the group are regulated to be able and ready to activate and implement the rule regime, for instance to enforce rules concerning group interactions and production activities

    (a) Internal governance is a type of production oriented to regulation and sustaining appropriate involvement in group activities, in particular production and reproduction, for instance, regulating key forms of production and interaction, insuring cooperation among members, resolving conflicts, managing interrelationships in ways consistent with group identity and rule regime imperatives.

    (b) Group activities mediating involvement and commitment do so through providing diverse forms of sanctioning, including material rewards and punishments as well as group status recognition and reputation assignment. Other sanctioning and control mechanisms relate to association with group identity, and rewards of sociability.

    (c) Key group interactions are regulated through: (a) Leadership processes (and the question of power and authority); (b) competition, conflict and conflict resolution mediated through group procedures and/or leadership intervention; (c) coordination and cooperation processes as well as negotiation procedures.[29]

(3) **Governance Function of Environmental Interfaces.** A group produces activities, goods, and services in order to be able to deal with its material/ecological environment as well as its social environment (the latter in terms of military action, economic and political exchange, and ideological and religious discourses).

    (a) A group attempts to maintain control not only over the internal environment but over group-environment interactions to assure proper functioning, reproducibility and sustainability.

    (b) Key activities concern defense, alliance formation, exchange for and mobilization of key resources. Groups mobilize to exercise external power – whether coercive, political, legal, expert, or normative, using group resources, whether material, cultural or spiritual.

    (c) When it comes to control of the external environment, the group may lack sufficient power to protect itself or to manage its dependencies – and so must adapt and accept the demands of more powerful external agents (unless it is able and willing to withdraw or hide).

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[29]Among the multiple processes of internal governance according to the rule regime are: (i) Governance/regulation of production processes; (ii) Governance of socialization and social control processes (normative regulation, adherence, integration; (iii) Governance/regulation of interpretation and application of rule regime; (iv) Governance of the copying or rewriting of a rule regime; (v) Governance/regulation as conflict resolution (vi) Governance/regulation as leadership (vii) Governance as boundary maintenance (determining participation, monitoring and regulating the interface with external agents and material conditions, monitoring and regulating subgroups or systems within the group).

(d) Related activities entail the group adapting its responses to the environment, see function (6).

(4) **Function of reproduction and maintenance of core group bases**:
The group engages in activities to maintain and reproduce its agential, rule regime, and resource bases – the core capabilities of group life and its productions.

(4A) **Resource reproduction**. This entails not only the group carrying on activities to obtain and/or produce resources essential to group life. But it entails engaging in activities to maintain access to – or to have the capacity to produce -- necessary technologies (including built environments and group places for meetings), materials (energy, minerals, building materials). In other words, this function insures the reproduction of the resource base of or the access to necessary resources (for group functioning and reproduction).

(4B) **Reproduction of agents** – this concerns the actors who are to continue the production and reproduction of group bases and activities:
(a) Reproduction of agents biologically and/or through recruitment outside the group is combined with socialization of recruited members. Socialization concerns, above all, the knowledge of the group rule regime and its application in practice) as well as the level of motivation and commitment (so that new members are prepared to activate and implement the rule regime – or the specific sub-complexes applying to them). This means performing in their roles according to group directives including normative directives and the commands of those in positions of authority.
(b) The group induces in its members to a greater or lesser extent motivation and commitment through socialization, ritualing, bonding strategies, sanctioning, and other group control mechanisms. This dovetails with function (2) that entails the operation of regulatory and governance mechanisms.

(4C) Rule regime reproduction entails maintaining copies as well as copying of rule regimes into new documents and instilling them (even if only partially) into new members.
- Part of this relates, of course, to socialization and education
- But it relates also to the performance of stories, theatre, dance and other group rituals and ceremonies which contribute to maintaining people's awareness of norms, roles, and institutional arrangements, cultural forms and myths.

(5) **Collective Judgment, Decision, and Value-prioritization Function**. An established group makes key collective (or group) decisions: selecting leaders, setting priorities, shifting goals as the group encounters new problems and issues (this relates closely to the innovation/adaptation function (6)), making reforms and bringing about transformations, e.g. in group bases). The group collective judgment, decisions, and actions include:[30]

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[30] **Collective judgment and decision-making** (that is, there are procedures ("group algorithms") to follow in any group or organization. There are also other forms of Collective action. Aggregates or crowds or "publics" may react in similar or parallel ways – and in this sense are "coordinated" by their common judgments and repertoires of strategies (the individuals involved apply a shared or common normative order). Similarly, markets or "public opinion" may entail forms coordinating judgments and decisions of participants, for example through prices or mimetic behavior but their actions are not collectively organized as in the groups or organizations considered here.

- Collective deliberation, judgment and choice.
- Collectively reprioritizing goals, legislating new rules, adapting, modifying rule regimes, and institutional arrangements ("politics").
- Thus, there are forms of internal group politics and policy production – these processes may be treated analytically as different from governance proper, but are typically linked or combined since the forms of collective choice and action entail and depend on governance and regulation.[31]

(6) **Innovation and Adaptation Function.** In general, a group engages to a greater or lesser extent in producing adaptations or innovations in its group bases and, in particular, of its rules and procedures in the face of internal and/or external challenges, failings, or crises.

(a) Group are driven to try to adapt their knowledge, strategies, norms, roles, and institutional arrangements in response to internal changes and/or external changes. These attempts typically evoke group tensions, conflicts, and struggles even if they may be necessary for sustainability in the given context.

(b) The adaptation usually entails mobilizing members within the group for purposes of innovation, changing norms, procedures, or role arrangements. Groups differ significantly in their willingness or capacity to innovate, as discussed later.

2. Variation in Group Requisites and Production Functions

Groups vary in their "conceptions" of their durability or longevity as a group. Some groups show little or no concern for their long-term sustainability but focus on short-run activities or tasks in which they are engaged. They focus on the immediate purpose and the possession of the necessary bases for that purpose. A group's rule regime may even contain rules indicating the group's expected duration or longevity (see Tables 1 and 3 and related discussionj).

Examples of groups with expected brief longevity are, for instance, short-term task groups such as juries, special committees and commissions. Group "purpose" is the immediate task, and for that purpose there are circumscribed means, resources, and recruitment of participants. The limited time-frame is specified by "time rules" in the rule regime. Reproduction/sustainability is typically not a major concern for groups with such a momentary character; they focus on the immediate task or designated activity; resources and personnel simply need to be available sufficiently to conduct the expected production schemes for the limited task(s).

In the case of a group with long-term sustainability expectations – the requisites for group functioning and maintenance become forces driving the group in ways differing from an initial purpose(s) and designs. This development is often treated as a case of "goal displacement", even a form of "corruption." *But it is a necessary part of any group logic and development*. Thus, enduring groups develop *multi-value complexes*, which must be addressed, and typically entail short-term prioritizing, "balancing" and making compromises.

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[31] There may be multiple processes of "group politics" or as part of the change of governance or change in the rule regime: (i) Adapt or change value orientations, strategies, membership, production rules, technologies, governance arrangements, etc. (ii) Negotiating changes of agential power or status relations within the group.

Groups vary in the attention, efforts, and resources they devote to their diverse functions. A group may focus on immediate realization of its purpose(s) or goal(s) – to the neglect, for instance of internal cohesion, maintaining commitment of the membership to the group, or attending to threats or attacks from the social and/or ecological environment. But then this may correspond to the members' basic ideas about the group: for instance, to focus entirely on the immediate task and then to expect the group to dissolve or "morph" into something entirely different at a later time.

On the other hand, preoccupation with external changes or threat may be accompanied by neglect of the realization of group purpose(s) and goals and/or key internal functions such as governance and socialization. Also, a group may be unable or unlikely (for instance, because of loss of belief or of member commitment) to deal with internal conflict or disruptive status and power games. Or, preoccupation with internal status or power or conflict issues may be at the expense of neglecting group purpose or environment issues.

In sum, our framework encompasses a wide range of group profiles and development patterns, for instance:

- Groups may develop a profile with diffuse, ambiguous purposes yet agree to a great extent on specific activities, and production functions (e.g. the use of violence as the main "purpose" in order to experience violence against a hate-object or to gain recognition). [32]

- Groups preoccupied with internal power and status struggles (or ideological struggles) tend to neglect or distort group purpose(s) or key internal governance and regulatory functions, although the power and status conflicts may be coupled to issues about the regime, recruitment, performance patterns and failings.

- Groups preoccupied with external challenges or threats may be trapped into neglecting internal group functions or primary group purposes ("goal displacement").

Groups engage – when conditions permit – in a variety of activities that do not relate (or if they relate, then only weakly) to the core group production functions and their outputs. These may be not only non-functional but even dysfunctional, e.g. undermining (unintentionally) agential, resource or rule regime bases (Burns and Dietz, 1992). Through such processes, groups fail, disintegrate and become extinct.

Group unable to replace or reproduce essential resources (materials, technologies) results in declining group performance and possible demise. More generally, groups devolve or collapse when their core bases decline substantially or disappear. Such devolution occurs because of a lack of access to or ability to recruit qualified, regime knowledgeable capable people; or lack of

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[32]The Sinn Fein (IRA) apparently exhibited such a pattern. The ostensible purpose of Sinn Fein (translated as "we ourselves" in English) was to achieve "sovereign independence" in the struggle with U.K. but the group had no concrete political programme. While it was vague about ends, it had a very well-developed conception of its means (Lane, 2014). Politically a very diverse group, Sinn Fein was held together by opposition to English domination and a campaign of methods (largely violent) rather than by a shared political philosophy, or a blueprint for an (eventual) new state. Ultimately, after independence (1920) there was an Irish civil war (1922-23) over two conceptions of the Irish state to be: one the idea of an "Irish Free State" still a part of the British Empire, the other a Republic (viewed as total freedom from "subjection to a foreign power"). This resulted in the division of Ireland (1922) contributing arguably to the time of "troubles" in Northern Ireland almost fifty years later (late 1960s to 1998).

appropriate resources or access to them; or because in a changed context of a poorly performing or failed rule regime (the group (or its leadership) lacks the capability or collective willingness to make legal or pragmatic adjustments, or, it may be unable or unwilling to reform or replace the failed rule regime. (see Section V)

In short, groups may or may not succeed in dealing effectively with the complexity of multiple purposes and requisites and sustaining themselves in their environment.

3. Tensions, Conflict, and Conflict Resolution in Groups
A key to effective group functioning and performance is to constrain internal sources of disequilibria and to develop strategies and procedures to deal with conflicts, incoherencies, and coordination problems. These are particularly important for group functioning and sustainability.

(1) Tension and conflict are endemic to groups. Members disagree about the interpretation or application of rules in the rule regime, about, for instance, rules concerning membership or recruitment or about expected role performance such as that of the leadership. This is particularly the case under conditions of unstable or changing contexts (see Section V).

(2) A major conflict factor in groups has to do with competition and conflict among group members about group status and authority (which are scarce resources). All members may get dragged into these games, even those who are not particularly status or position ambitious but who have ties to those engaged in the conflict or competition. Some are drawn in against their will or better judgment as those directly involved try to mobilize support for their cause. Even "underdogs" may compete in these terms.

(3) A rule regime other than the established group regime is introduced or activated by the group leader, key members, or powerful outsiders, and it interferes with the established implementation/performance of group rules regime (key norms, roles, relationships, procedures including those essential to group maintenance and reproduction). Loss of consensus about the group regime – or about the positions or performances of particular members – tends to stimulate competition or conflict in the group, for example among leaders or high status members, as they struggle to mobilize support and advance their own perspective.

(4) Groups try to make adjustments in their systems when they discover incoherence in key areas. Such incoherence may arise as a result of changing part of a system without changing other parts: new goals, new rules may have been introduced (possibility because of external requirements) that do not fit established production complexes.

(5) Groups whose members perceive technologies, rule regimes, or participant configurations and conflict as generating serious problems are more like to be activated, mobilize resources, and seek to bring about change. For instance, (a) Anomalies and inconsistencies arise between two or more regimes; (b) disagreement emerges as a result of competition or conflict in the group, for example, among leaders or high status members; or (c) major gaps occur between what the group is able to deliver in practice and what is directed in its purpose and requisites (for sustainability).

(6) Production of disorder: Group systems require some degree of order and predictability but some or much of the behavior of the group – or other groups or the environment – may produce

group disorder and unpredictability. For instance, the goals and practices of the system – or competition and other external pressures —drive innovation and change, which in some cases results in incoherencies and destabilization. There is, therefore, a likely incoherence between the processes of innovation and development, on the one hand, and the possibilities of their effective regulation and governance, on the other hand. We refer to this as *reflexive disorder* (Burns and DeVille, 2007) (see later discussion).

(7) A common difficulty in group functioning is that incoherence (or imbalances) emerge between production functions, particular if there is limited or weak coordination ammong them. That is, here is a lack of sufficient regulatory governance to address imbalances between interrelated production functions or resource flows. One form of such incoherence arises when the outputs of one production function are inputs to another. The output resource may be at an insufficient level for the appropriate input level of the other production function. Put another way, the second consumes at a level not matcheable (or in balance) with the supplier.
(8) Production functions interdependencies require some level of integration/regulation to maintain effective performance. "Intregrative disorder" results when there is a lack of sufficient social coordination or integration of critical subsystem couplings or their interdependencies, and interaction/production processes and outputs suffer accordingly.[33]

Groups typically develop strategies and procedures (production functions) to deal with problems of conflict, incoherence, and integration failures – essential to group functioning. A lack or a breakdown of procedures or a failure of the leadership itself to properly resolve tensions, conflicts, and incoherencies lead to performance failings and problems of group sustainability, as suggested in several of the points raised above. Unresolved conflicts not only affects group functioning and performance but in time erodes the engagement and commitment of (some of) the membership, reinforcing malfunctioning and ultimately demise of the group (or a significant part of it).

IV. GROUPS AND THEIR DISTINCTIVE RULE CONFIGURATIONS: COMPARATIVE CONSIDERATIONS

1. Universal Rule Categories in the Rule Regime[34]

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[33] The problem of incoherence between system integration (interdependencies) and social integration (regulatory/governance and normative control) was identified by Lockwood and developed further by Archer, Burns and DeVille, and others.

[34] A rule regime, which is a subsystem of every functioning group (see Figure 1), contains its own *sub-systems.* Each of these has one or more rule categories, whose contents motivate, coordinate, and organize group members but also provide meaning of group activities and definitions and interpretations of what is going on, and are also referred to in group discourses and accounts.

Five sub-systems can be identified in the rule regime model (each subsystem has one or more rule categories – ten in all -- that are identified in Tables 1 and 2 (and Table 3 is in the Appendix)).

- ■ *Rules in the agential subsystem*: Five categories of rules concern group agency relating to: Identity (I), Group membership (II), Shared purposes, values, ideals, and goals (III), and Shared knowledge and beliefs (IV); Social relational subsystem (category V);
- ■ *Rules in the resource subsystem* (category IX)
- ■ *Rules in the subsystem for production functions* (category VI) (and the time and space rule category X);
- ■ *Rules in the subsystem concerning interfacing and dealing with the environment*, category VII

The rule regime is a cognitive-normative framework containing rules and rule complexes defining, among other things, group identity, its purposes and group values and goals, its participants, their relations and social structure, role relations including status and authority relations (also group leadership), groups divisions, characteristic activities and procedures, its materials and technologies, the times and places for group activities, and the interaction patterns and productions/outputs (see Tables 1 and 2).[35] The regime may be understood as consisting of a collective codebook, cultural tools, social organizational principles, and programs of action. Any rule regime has a particular architecture, the cognitive-normative basis of the identity, purpose(s) and functioning and development of the group.[36]

The finite and universal rule base – which structures and regulates group social action and interaction -- its material, and agential conditions is identified below (Table 1). (In the Appendix we present in more detail these universal rule categories that make up a group or organizational rule regime).[37]

Table 3: Key Types of Rule Categories Specifying Group Conditions, Structures, and Processes[38]
Type I. Identity rules – "Who are we?" "What symbolizes or defines us?"
Type II. Membership, Involvement, and Recruitment Rules – "Who belongs, who doesn't?" "What characterizes members?" "How are they recruited, what criteria are used in their recruitment and selection?"
Type III. Rules concerning shared purposes, value orientations and ideals – "What does the group consider good and bad?" "And what is the group's shared purpose(s) for acting together and producing its outputs?" "What rules or principles of distributive justice are their specifying how benefits and costs are to be distributed, or members to be rewarded or punished for their collective and individual behavior with respect to general values as well as specified role

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■ *Rules in the subsystem for changing the rule regime* (with self-reference and meta-rules) and the core group bases, category VIII (along with the rule category of time and space X).

[35] This is not a "laundry list", hence our emphasis on the structure or *architecture of* rule regimes (Carson et al, 2009). The specification and analysis of rule complexes making up architectures goes back more than 20 years and was the basis of a re-conceptualization of the theory of games and human interaction, leading to a sociological theory of games (Burns and Gomolinska (1998, 2000); Burns, Gomolinksa, and Meeker (2001), and Burns and Roszkowska (2005, 2007, 2008, among other articles).

[36] A rule regime does not necessarily consist of formal, explicit rules. It may be to a greater or lesser extent an implicit regime, on which members of a group do not reflect (unless or until there is a crisis or performance failings, "failed group processes"). The degree of institutionalization of the regime as well as its completeness are variables.

[37] The ten categories correspond to minimal descriptions of social action and interaction conditions.

[38] Rules and rule regimes need not be explicit but may be tacit, or partially tacit. At the same time, group members and outsiders may have misconceptions about the rules and their application. Thus, group members may deceive themselves and others about what rules they are applying and what they mean in practice, deception may be institutionalized in the form of ready-made discourses defining or explain a regime as just or efficient or optimal – for example, a market regime – when it is not. Members as well as outsiders may see what they have been led to see and understand. There is always to some degree a "front stage" and "back stage" (Goffman, 1959) to rule regime application and implementation, as there is for group life generally (see part V).

performances"
Type IV. Rules concerning shared beliefs and models – "What do we know and believe about ourselves, our group behavior, and our environment."
Type V. Social relational and structural rules. "How do we relate to one another, what is our social structure?" "What are the authority and status differences characterizing the group?" "How do we interact and reciprocate with one another and with the leadership?"
Type VI. Procedural and production rules. "What are our characteristic activities, practices, production programs, ceremonies and rituals?" "How do we coordinate activities and make collective decisions and carry out core group activities sustainability?"
Type VII. Rules for dealing with environmental factors and agents. "How do we cope with, make gains in the environment, dominate, or avoid environment threats?"
Type VIII. Rules for changing core group bases, including in particular the rule regime itself. "How should we go about changing group structures and processes, our goals, or our practices"?
Type IX. Technology and resource rules. "What are appropriate technologies and materials we should use in our activities (and possibly those that are excluded)?"
Type X. Time and Place Rules – "What are our appropriate places and times?" And how long is the group expected or believed to endure, be sustained.

Rules that are part of a group's rule regime are "known" to a greater or lesser extent to all or most members (some or many rules possibly tacitly); normally they are considered appropriate or legitimate and are useable and implementable (provided requisite technologies and resources as well as coordination capability continue to be available to the actor(s)). A group's regime provides the cognitive-normative and institutional basis of members to coordinate with one another, to collaborate and exchange in particular ways; to understand what is going on in the group, to simulate group interactions and developments, and to refer to in giving and asking for accounts and in making normative judgments, criticisms as well as eulogies (Burns and Flam, 1987).

While any particular group determines/establishes the rule content of its universal categories, the complex of interdependent rules make up a unique *group rule configuration.* It characterizes the group and distinguish it from other groups. In other words, diverse groups operate with distinctive rule configurations. Although the rule categories for these contents are universal; the rule configurations distinguish from one another a terrorist gang, a bridge club, a R&D unit, or a monastic order (see section IV and Tables 4 and 5). In other words, any given group is uniquely characterized in the particularistic terms of its rule configuration(s).

The model does not require that group participants are in agreement about the regime (or the particular content of its rule categories). Group participants in general and in their diverse roles are expected to perform according to their particular role grammars, but they may disagree and struggle over the appropriate contents or interpretations of categories of rules, or even details of a particular rule, not to speak of the entire regime. There is at one time or another a politics (or potential politics) to social rules associated with, for instance, particular roles and role relationships and production complexes as well as more generally regime rules and their application in the group (see next section and Burns and Flam (1987) and Carson et al (2009)).

2. Group Rule Configurations

The various content rules in the universal rule categories relate to one another systemically. For any given group in its material and social context, its different content rules make up stable sub-complexes linking for instance particular value/goal rules to involvement/recruitment rules and to production function and resource rules. In other words, *a given group fills up the contents of the universal rule categories in its own particular ways—which has a logic*.[39]

One should envision a matrix of rule interdependencies.[40] We refer to such interrelationships as *group rule configurations* (which for an established, enduring group are often social equilibria (Burns and Roszkowska, 2006)).[41] An important class of rule configurations entail linkages among group identity rules (I), group purpose and value orientation rules (III), involvement/recruitment rules for involving and socializing committed and capable actors (II), an appropriate set of relations and roles for the tasks of accomplishing group productions/performances (V), appropriate production programs or functions for realizing or accomplishing group goals/values (VI), appropriate resources (materials and technologies) (IX) for the production functions, and appropriate/legitimate time and places to conduct these group activities (X). In a table form the rule configuration looks like this in the case of the 9/11 terrorist group.

Table 4: Illustrataon of a Particular Group Rule Configuration

	Terrorist Group such as the 9/11 group (see pp. 39-40)
Defining Identity (I)	Group name, possibly logo. Identity associated with the terrorist goals and possibly with the particular methods or strategies used. "Negative" dress code to conceal identity
Recruitment (IIA)	Recruitment & training of capable and committed members, willing and able to carry out terror acts
Membership & Participation/ Involvement (IIB)	Covert participation. Dress code and code of silence to conceal identity. Strict obedience to leaders and group rules.
Purpose(s), Purposes/Values (III) [42]	Orientation to carry out deadly attacks against designated categories of targets; accomplish destabilizing actions, create

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[39] The methodological approach linking universal rule categories to the particular rule contents in these categories may have parallel's with Simmel's formalism where universal grammars with respect to which actors behave in ways characterized by the particularity of their contexts (Gross, 2009).

[40] Eventually provide a figure or matrix here mapping coherence among the rules of a group configuration.

[41] The linkages may vary in the tightness (or looseness) of their couplings. In a loosely coupled configuration, a disturbance or shift in the rules of one category may not spread to the rules of other categories. On the other hand, in a tightly coupled configuration, a disturbance in the rules of one category tend to destabilize others.

[42] The purposes are "legitimate" ones – and ideal types at that. But military as well as police purposes may be transformed (or degenerate) into counter-opposition and political repressive missions instead of "national defense" and ordinary law enforcement functions, respectively, substantially poisoning the institutions and impacting negatively on their societies, processes exemplified in many contemporary Latin American and African countries.

	terror
Group Relations of Reciprocity & Leadership (V)	Strict hierarchy, maintenance of strict separation among members (thus, independent cells).
Production & Output Functions (VI)	Deployment and use of terrorist weapons; action to conceal identity and operations. Procurement of weapons, safe houses, financing.
Relations with the Environment (VII)	Identification of enemies and targets; concealment, avoiding detection and monitoring
Group Resources (IX) (materials and technologies).	Weapons of destruction; safe houses Sufficient funding to obtain weapons and to engage in the preparations such as training.
Times & Places for Group Activities (X)	24-7 readiness, available safe group spaces, training camps

In the following section, we differentiate and compare selected groups according to their particular rules specified in the universal categories.

2.1. Group Rule Configurations and Differentiation among Groups

Groups are distinguishable according to their value orientations and purpose(s) (spiritual, and economic gain, use of force or coercion, artistic creation), social structure (for instance, hierarchical, egalitarian, mixed), basis of involvement and possibly commitment (e.g. normative, affinity-attraction, remunerative, coercive), resource dependence, characteristic group behavior, and impact on the environment. Group research enables the systematic identification and specification of the major contents of universal rule categories.

Illustrations of group systems are many and diverse:

- Family group of a particular culture
- Professional groups (in which members exchange information, and knowledge, and collaborate to varying degrees).
- Work or taskforce group (part of a production system, a cooperative). Production may be largely mechanical – making widgets, or making them efficiently, or may be aesthetic (as in the case of a dance or theatre group) or spiritual (religious and church groups). Groups, even work groups, vary in their degree of task orientation (versus those that are only weakly task-oriented and devote themselves principally to *innovate* in ways to avoid monitoring and supervisory control)
- Informal play groups (games and sports, cards, having fun and/or performing well)
- Therapy groups (Alcoholics Anonymous, community therapy groups)
- Local gangs oriented to dominating or protecting themselves in their environment
- Terrorist groups such as 9/11

The conceptualization of rule configuration is operationalized for a selection of several group systems in Table 2 characterizing diverse *ideal types of groups*. The cases are selected for their diversity and illustrate eight rule categories for each type of group (see also Appendix). [43] We distinguish, on the one hand, self-organizing groups (e.g., gangs, some terrorist groups, friendship groups, and many recreational groups (as well as many research teams and business "partnerships"(Columns C and D)), from, on the other hand, higher order constructed or "legislated" groups (military units, business units, research institutes, administrative groups and organized units at workplaces), established and maintained by a more encompassing organization and leadership (Columns A, C, D, E, F). [44] Groups including alliances, intergroup, and other similar entities may be formed through negotiation among agents, as discussed and exemplified in Part III.

The illustrations are fuzzy or rough ideal types, not crisp empirical cases.[45]

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[43] Interestingly, Charles Perrow (1967) suggested a similar idea for comparative analysis of organization, although he claimed to reject "systems theoretic" approaches (personal communication). He framed his model in terms of patterns of variables rather than patterns of rules. Of course, rule patterns are translated or implemented in patterns of performances/outputs and practices, therefore, readily expressable in terms of variables. His intuition was that an ideal type of organization would have particular properties making up a configuration. And he rightfully suggested that this basis for comparative analysis and distinctions among types was more powerful than the typologies proposed by Talcott Parsons (functionalism), Amitai Etzioni (the bases of organizational control), Peter Blau and Richard Scott (the dimension of who benefits or gains from organizations), etc.

[44] As suggested earlier, any given configuration will have a history and evolutionary dynamic driven and shaped by internal and external forces.

[45] In other words, in our conception, the abstraction group is an *ideal type*. Any empirical case can be located in a space between the ideal type and its counterpoint in practice, where distances are measured on multiple dimensions, although the notion of a "group" is a fuzzy concept -- any empirical group is an approximation to an *ideal type group*. It can usually be distinctly differentiated from its negation or opposite, a collection of non-related actors neither oriented nor committed to any social organizational regime regulating members' behavior and group behavior as a whole.

Table 5. Illustrations of Group Rule Configurations

	Professional Army Unit (Illustration) (A)	Recreational, e.g. a club (B) (Illustration)	Business Unit (C) (Illustration)	R&D Institute (Illustration) (D) such as PARC (p. 22)	Terrorist Group (Illustration) (E) Such as 9/11 group (p. 22)	Prison Institution (illustration)(F)
Defining Identity (I)	Unit's name, logo or insignia and markings of rank. Particular military uniform as dress code. Possibly a particular location. Identity in part defined by the goal orientation and the means used (military power) (see rule categories (III) and (VI)	Group name (e.g. club name), possibly has logo. Minimal or no dress code. Identity associated in part with the particular group activity and its location.	Trade name, logo; possibly badges, dress code, even uniforms. Likely a particular location or building(s). Identity also defined by the goal orientation to economic gain (which often trumps other goals) (category III)	Institute name, possibly logo. Minimal or no dress code. Identity associated with the research goals, typically in a particular area and possibly with the methods or equipment used.	Group name, possibly logo. Identity associated with the terrorist goals and possibly with the particular methods or strategies used. "Negative" dress code to conceal identity	Prison name. Prisoners typically subject to a uniform dress code. Guards also uniformed. Identity associated with the purposes, means, technologies, characteristics of population
Recruitment (IIA)	Formal recruitment and training of able and willing unit members to obey and perform violent acts (based on honor, payment (mercenaries), conscription (coerced involvement)	Affinity group of friends, relatives or people with common interest in the recreation ("buffs") and being together.	Skill-based recruitment; Search for persons & groups sufficiently oriented to and acceptant of remuneration levels provided as well as performance demands	Recruitment based on formal education/training and/or achievements of individuals or groups in the relevant field or domain	Recruitment & training of capable and committed members, willing and able to carry out terror acts	Strictly speaking, prisoners are not "recruited". They have been arrested and confined. Guards are recruited.
Membership & Participation/ Involvement (IIB)	Highly codified, harsh punishment for breaking key rules, in particular those concerning loyalty and obedience to the leadership and its symbols	Informal, relatively lax sanctioning for breaking group norms and values	Contractual engagement. Loyalty to the business brand and leadership. Sanctioning for deviance through acts of disloyalty or disobedience.	Informal, relatively lax sanctioning for breaking group norms and values. Loyalty to the knowledge production cause and the professional code of ethics – sanctioning for deviance from these	Covert participation. Dress code and code of silence to conceal identity. Strict obedience to leaders and group rules.	Dual social order. Prisoners are alienated and oppositional generally. Guards are remunerated & with careers.
Purpose(s),	Defense/ Offense	Mutual pleasure,	Pursuit of money-	Produce new	Orientation to carry	Maintain law &

Purposes/Values (III)	(external); also, orientation to possibly exercise control internal to the society (coups) [46]	getting together, "having fun"	making; possibly also values of making quality goods and services, satisfying clients	knowledge or technology. Innovate/create and experience "flow", possibly also to achieve symbolic power and scientific prestige	out deadly attacks against designated categories of targets; accomplish destabilizing actions, create terror	order. Divided (and divisive purposes) between guards and prisoners.
Group Relations of Reciprocity & Leadership (V)	Strict hierarchy and possibly high reciprocity and support among members	Minimally hierarchical (yet possibly with status differences), Someone or some members expected to plan and coordinate meetings	Hierarchical social order. Supervisor planning and monitoring of production activities; regulating and sanctioning inappropriate deviance	Symbolic hierarchical order and likely status differences. Exchange, reciprocity, and competition	Strict hierarchy, maintenance of strict separation among members (thus, independent cells).	Prison leadership and guards have an administrative system. Prisoners form informal groups for recreation, illegal activity
Production & Output Functions (VI)	Deployment and exercise of armed force or its threat, for instance in territorial defense or offensive action.	Engagement in particular sport activity (amateur	Economically gain from production and commercial activities	Initiate & accomplish potentially innovative or creative projects.	Deployment and use of terrorist weapons; action to conceal identity and operations. Procurement of weapons, safe houses, financing.	Prison administration has prison routines and technologies (including weapons) to control prisoners. Prisoners try to engage in various illegal or forbidden activities
Relations with the Environment (VII)	Rules and algorithms for dealing with external enemies or threats Maintaining strict	Loose boundaries	Orient dynamically to goods and services markets; rules for strategically dealing with financers,	Strategies vis-à-vis funders, competitors, relevant professional communities	Identification of enemies and targets; concealment, avoiding detection and monitoring	Prison tries to control exchanges with the environment.

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[46] The purposes are "legitimate" ones – and ideal types at that. But military as well as police purposes may be transformed (or degenerate) into counter-opposition and political repressive missions instead of "national defense" and ordinary law enforcement functions, respectively, substantially poisoning the institutions and impacting negatively on their societies, processes exemplified in many contemporary Latin American and African countries.

	boundaries. Acting to obtain funding		suppliers, competitors, and regulators			
Group Resources (IX) (materials and technologies).	Armaments, military equipment Sufficient funding base to function effectively relative to real or potential military challenges	Specified equipment for activities, access to activity space	Specified appropriate materials, technologies used in production and commercial activities; Sufficient financial resources (capital) for group sustainability and production	Appropriate resources and equipment for research and development in the group's domain (e.g., computers, laboratories). Sufficient funding base is a critical component of group knowledge production and sustainability	Weapons of destruction; safe houses Sufficient funding to obtain weapons and to engage in the preparations such as training.	Prison administration has substantial resources of control. Prisoners have to smuggle in or to produce themselves technologies and other materials
Times & Places for Group Activities (X)	24-7 readiness, military camps and offensive and defensive positions	Free time of members; identity of places accessible to members or the group as a corporate entity (club)	Specified times and places (factory, office) for production	Arbitrary or loose times and places for research (work)	24-7 readiness, available safe group spaces, training camps	Administration has 24-7 readiness

Comments on the table: Note that groups A, C, D, E,and F involve task-oriented groups (there are goals, means, membership recruitment, governance structures, conceptions and "measures" of failure, and reflectivity and, under some conditions, predisposition to reform. B, on the other hand, is expressive or "fun" oriented. Group activity itself and the experience of pleasure are the aims. But, of course, to engage in a fun activity such as to bowl or to play pool, the group has to make arrangements and deal with a bowling alley or a pool room – and their rules and demands – which become a preoccupation or goal consideration (see later on group requisites or goals).

E (and possibly A and D as well) is task as well as expressive oriented in that there is high emotional involvement of members.

A group may undergo changes because of the development of new goals or new production complexes with changed technologies. For instance, a recreational group might develop a more professional and ultimately business-like orientation with concerns about high performance, competition and obtaining money to finance improved technology and quality participants (see presentation of the BMX group in section III). Or an informal research group or even network may institutionalize itself within a university, or may establish an independent institute on its own but with appropriate goals about obtaining sustained funding, a physical location and building – and, of course, satisfying external requirements for the form.

3. The Coherence of Group Rule Configurations

As indicated above, a group rule configuration does not consist of randomly selected or ad hoc rules, but of rules having some minimum degree of interconnectedness among them. The group rule configurations presented comparatively in Table 2 exhibit a *degree of coherence imposed* by its members and/or by external agents constructing the group.[47] Otherwise, people would not recognize and have stable expectations about the group ideal types and be able to distinguish identities among many different groups; the recognition aspect is important in addition to a configuration's role in actual group functioning.[48] The coherence of a group rule configuration is essential to group social order: to its predictability, understandability, and controllability (through rule based controls) of behavior in the group. To varying degrees, groups try to establish and maintain rule coherency and stringency of implementation for purposes of constructing a reliable social order with predictability (at least for themselves and possibly for others where required).[49]

In the discussion below we focus initially on the "internal coherence" of a single group configuration. The coherence or "logic" relates to the rules of different categories fitting together in connection with group purpose, group identity, production functions, roles and role relationships, etc. In the case there are multiple configurations, then coherence may concern the relationships between and among multiple regime. Finally, we consider coherence between group rule configuration(s), on the one hand, and external regimes and agential demands, on the other hand.

The first principle of coherency. The rule content of group rule configurations typically have stable, distinct coherences or logics. In other words, the rules of a configuration are not arbitrarily determined or selected but are required to fit together into a more or less meaningful whole (although at the same time there may be gaps and degrees of inconsistency in rule configurations because the order is a "negotiated order", involves compromises, local adaptations, etc.). Each of the groups in Table 2 has a more or less coherent rule configuration in the sense that the production functions of the group and its technologies and other resources "fit" or are "appropriate" in relation to the principal group purpose and identity. Similarly, the rules relating to recruitment and involvement of members are also fitting or appropriate in such terms.[50] And the "place" of group action tends to fit such ends, means, and membership.[51] *In*

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[47] Another *rule configuration property* would be the *degree of coupling (tight vs loose coupling) among rules: the extent to which the activation of one rule or rule complex/algorithm leads to the automatic activation of one or more connected rules or rule complexes/algorithms* (Karl Weick, Charles Perrow). Some rules have buffers between them, or agents making judgments whether or not to pass a signal on – such "loose coupling" may or may not occur through the intervention of human agents or may occur through design of the system. Perrow and others have used considerations such as "tight coupling" to assess the degree of vulnerability of financial systems or other socio-technical systems to go out of control and crash.

Consideration of degree of tight coupling and degree of coherence leads to an insightful 2x2 table (other properties of rule systems may be taken into account and introduced into such analyses).

[48] This conception of coherence can probably be related to what the neo-institutionalists refer to – mostly metaphorically – as "*institutional logic*" (or logics).

[49] Notice that the need to coordinate participants and maintain social order is arguably a more decisive factor **in general** than technology in determining group social organization.

[50] In most group contexts "fit" or "appropriate" are fuzzy concepts rather than precise or "crisp" (see Burns and Roszkowska on fuzzy logic and judgment models).

[51] What we are doing here may relate to Merton's juxtaposition of values and norms (means) in his famous table. Of course, he overlooked technologies, time, place, social structure, etc. in his characterization

general, there is a patterning or ordering of the universal rule category contents for any given group.[52]

For instance, the rule configuration of the military (see Column A in Table 2) consists of specific identity rules as well as rules that articulate group purpose and production functions together with appropriate technologies, recruitment, training, and involvement (skills, loyalties, orientation to authority), authority relations and patterns of governance, and place or location (the rules of these categories relate in expected ways to purpose).[53] The rule configuration is more or less a coherent *packet*, an identifiable, more or less orderly rule complex. Its coherence and, if you will, its performance effectiveness, varies depending on group tasks, the membership and resource bases and other variables such as the ones suggested below.

Consider a research laboratory, for instance a high energy lab such as CERN or the Stanford Linear Accelerator (SLAC) (see column 5 in Table 2). Its identity rules, in addition to its name, logo, and location, concern its purpose, its particular research production functions with appropriate technologies, its rules for recruitment, training, and involvement of participants. Besides permanent scientific leadership and staff, there are selected visitors who come to CERN (or SLAC) to conduct experiments during allocated time periods, in other words, they are temporary participants in the group.

In sum, our first principle concerns the coherence or logic of the basic group rule configuration(s). One purpose or function of a coherent group rule configuration entails making group behavior understandable, predictable and controllable in the group domain(s) of activity. It enables predictable coordinated action – and under certain conditions – more effective group actions. But the level of rule coherence varies depending on the type of group and its main concerns, as discussed later.

There are multiple coherencies (or incoherencies as the case may be) associated with any rule regime, as indicated below in our discussion of two additional principles of coherence relating to group rule configurations.[54]

A second principle of coherency refers to a configuration fitting or appropriate for other associated group configurations (inter-configuration coherence). We mentioned earlier that a group may have more than one configuration – which is characteristic of groups or organizations that operate with multiple purposes and production functions, for instance in the case of a group of physicians, which has its professional functions as well as an economic or business functions. These two logics (or possibly more) may operate side-by-side (in a certain sense, parallel and interacting) or may operate in sequence (phase model) or even in a multi-level fashion (where in case of incompatibility, the higher level process trumps the lower level one), that is, determines the leading or hegemonic rule logic of the complex of multiple rule configurations.

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[52] Groups do not establish rule configurations from scratch. They typically make use of "cultural blueprints or algorithms" for setting up a particular group. Of course, the group makes adjustments and adaptations based on the people involved, the context, etc. at the same time there are "family resemblances among the patterns of a certain type of group.

[53] Of course, there are odd units that do not fit this pattern very neatly, for instance, "military intelligence," "drone units," "purely administrative staff", etc. – and provide some of the humor as well as challenges to "fit them in" appropriately (see below on multiple logics in groups and organizations).

[54] The stress here is on rule configurations that make sense, and in that respect are considered coherent. But group members typically consider it important for themselves and others that their identity is coherent. They use particular discourses for this purpose. They also make distintinctions in their accounts between front-stage and back-stage performances and discourses in order to convey a coherent identity, not one that is fragmented, inappropriate, contradictory, etc. **The front-stage and back-stage variants are usually incoherent to a greater or lesser degree.**

All of our illustrations (Table 5) are ostensibly single logic cases, but our approach is not limited to such cases and is capable of analyzing groups with multiple group rule configurations or logics, as in the case of a professional group of physicians operating in a market, so that the group operates with a professional configuration and a market group configuration; often these are kept distinct through a division of labor, buffering roles between the two domains, and taboos and rituals to prevent or correct any "market pollution" of the professional order (ethos), or any risky subversions of the logic of the market by professional considerations (Machado, 1998; Machado and Burns, 2000).

A third principle of coherency concerns the compatibility of a group rule configuration with the requisites (or constraints) deriving from the larger socio-cultural and institutional context. The question is to what extent does the configuration "fit" or is coherent with a larger socio-cultural and institutional context. A group may find one or more rules in its particular rule configuration in *contradiction with the demands of external social structures and/or powers.*[55] It may be incapable or unwilling to satisfy specific "performance" demands or legitimation requirements of the regulative environment because to do so would violate rules in its regime. *Neo-institutionalists stress the role of such an environment in constraining and selecting and "reproducing" certain institutional forms, making for greater similarity or convergence of institutional forms than otherwise might be expected*[56]. But the extent of homogeneity will depend to a greater or lesser extent on the uniformity of regulation and on the uniformity and strength of predisposition to compliance among groups (see discussion below concerning deviant behaviour and frontstage and backstage differentiation).

For instance, a medical practice cannot be referred to and operate as a "clinic" unless it meets certain legal, professional, and financial criteria. Similarly, the requisites of legitimation and specific performance demands apply to organizations wishing to be certified as hospitals – they have to provide designated services and maintain certain levels of professional treatment and service. This holds true in a similar fashion in cases of accrediting a school, college, or university; a "five star" hotel, a "security service", a company licensed to handle or operate with such dangerous chemicals as dynamite. The external demands make for common rule coherency (institutional and cultural conditions) and homogeneity of groups operating in a given regulated domain or sector.

To be certified or legitimized in such a context, a group's operating rule regime is expected to satisfy particular criteria and to result in specified performance patterns and practices. Once again, the rule contents of the group configuration are not arbitrary but are

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[55] The larger cultural-institutional context may support, for instance, equality, democracy, or secularity, but the group regime is oriented to inequality, extreme authoritarianism, or religious fanaticism, even vicious criminal behavior (or, vice versa, when a democratic group like the Brazilian football team, the Corinthians, after an internal democratization process, decides in the early 1980s to launch a national-wide process that contributed to establishing democracy in Brazil. This became an effective and powerful movement, given the place of football in Brazil and the national prestige of several of the Corinthians players).
Group incoherencies generate the development of front stage-back stage differentiation (see later discussion) but, in some cases, motivates movements to overcome incoherence as in the case of the Corinthians movement in Brazil.

[56] Illustrations are numerous and diverse: The U.S. Supreme Courts upheld a criminal ban on the use of peyote in Native American sacramental practices. On the other hand, peyote-using groups may maintain a front stage compliance with the law and a backstage violation of the law under conditions where concealed is possible (see later discussion of frontstage and backstage differentiation).

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"selected" to satisfy external institutional, legal, and legitimation requisites as well as internal coherence requirements.

Of course, some groups (the proportion varies depending on the field of action and the diverse properties of the groups) do *not* fit in or conform to environmental demands. They are *incoherent* with respect to the environmental legal and normative requisites. This may be because of a lack of sufficient resources, or agential expertise and capabilities, or the pressures to make gains and/or avoid losses through deviant strategies. This is obvious in the case of a terrorist group (column 6 in Table 2) but it is also true of apparently legitimate military, business, professional, or research groups that *betray* their designated purposes and normative requisites. Any of the groups may deviate in some respects from their established frontstage regime and, thus, are likely to operate so as to conceal this deviance from authorities and/or publics.[57] Indeed, such is true of many apparently legitimate enterprises, political parties, professional groups, universities, hospitals, etc. whose *operative rule configurations and their actual realizations* (that is their "back stage performances")[58] deviate to a greater or lesser extent from their front stage presentation of self and the apparent adherence to the laws and norms applying to them (Burns and Flam, 1987). Consequently, they operate to conceal their deviant activities and to carefully maintain a front stage/back stage distinction.

The concepts of multiple group rule configurations and incoherency in our theoretical model shed new light on and lead to new research questions about the front stage and back stage differentiation. In other words, frontstage-backstage differentiation is one form of incoherence between more or less distinct rule configurations, namely that of frontstage normatively legitimate performance and that of backstage deviation; this is one instance of the general pattern of multiple incoherent but related rule configurations (but where each may be more or less internally coherent). In other words, *the frontstage rule configuration is one required by law or institutional authorities, at the same time the group operates or tries to operate with a backstage rule configuration that better fits its purpose, limited resources, and/or its local context*.

This pattern of discrepancy between what is legally and/or administratively required in the larger context and the actual group rule configuration and production outputs shows up in many forms of group deviance (corruption, criminality, unprofessional and unethical behaviour,

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[57] The purpose of an ethnically oriented group might be similar to the social group in column B of Table 2, namely to get together to enjoy themselves playing ethnic games, dancing and singing. But its purpose might also be (or become (under conditions of threat)) to advance or protect the ethnic group (a transition would occur between a purely social group for self-enjoyment and a more militant and outwardly aggressive type group). In the group's view, this may require arming themselves, possibly obtaining resources of weapons through criminal means. In this way, they become a multi-logic group. In addition to the logic of an inwardly oriented ethnic group, it develops the logic of an armed group to carry out violence against others as well as to engage in the pursuit of income and other resources through criminal means. These pursuits put them, of course, at odds with the larger society – at the same time their militancy may escalate in response to policing and "repression" from the larger society.

[58] There are almost daily revelations about individual and collective agents deviating from legal and normative requirements: In politics, one observes political parties' "dirty tricks", "Watergate" rigged elections; in the corporate world: Enron's bookkeeping fraud, Bernard Madoff's ponzi scheme, Cendant corporation scandal, Bernard Ebbers' WorldCom securities fraud, etc; Health care: the French blood scandal (HIV contaminated blood), illegal buying and selling of organs for transplantation; cases of euthanasia and mass murders in hospitals; scandals of NGOs, universities, and research institutes in the illegal or improper use of their funds; public and private organizations: release of toxic chemicals, dumping of hazardous wastes, including Love Canal Disaster and innumerable other tragedies, etc., etc.

etc.).[59] The concept of rule configuration coherence sheds light not only on frontstage-backstage differentiation but on Goffman's "conman" (Goffman 1959).[60] He or she (and often there is a group engaged in such systematic deception) construct and maintain a coherent image vis-à-vis their investors or key parts of an enterprise. At the same time Con people establish and maintain a secret rule configuration known only to themselves, including secret rules of bookkeeping and reporting. Their secret configuration dovetails at key junctures with the frontstage version. "Real" outputs flow into, for instance, their secret accounts – but there is double and, of course, deceptive bookkeeping: that of the frontstage with virtual accounts. Particularly interesting from a rule system perspective is that *Con people require coherent rules in the rule complex used to translate back and forth between the fraudulent system and the legitimizing frontstage system.* Of course, the fraudsters keep the translation rules to themselves.

The multiple mechanisms structuring group rule configurations point up the importance of a sociological systems approach to the analysis of the process of the determination of the contents of the universal rule categories that make up rule configurations. At the same time, much group rule determination involves compromises – because of internal differences among members but also because of divergence between, on the one hand, internal group rule preferences and, on the other hand, external requirements for group rules and practices.

The sociological systems approach alerts us to the fact that *multiple mechanisms structure group rule configurations (that is, the selection and determination of their contents). It is not only the group itself which decides on its rules.* These multiple and to a certain extent contradictory mechanisms make for incoherencies and compromises of group purposes, norms, and performances. There are some groups, of course, that operate in minimally regulated spheres or domains (or, are able to effectively avoid external constraints and regulation), and they may enjoy considerable freedoms and leeway to determine the rule configuration as they wish; this obviously applies to the underground and backstage-oriented groups referred to above.

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[59] Can corruption be treated in this way? The answer is yes if there are legal/administrative requisites concerning group corruption; one can speak then of incoherence. But a group configuration might be designed in such a way that some would consider it "corrupt", but the group itself considers the configuration fully appropriate and not discrepant with respect to norms, laws, etc. Even in the case there are laws and regulations against corruption, group members may believe and argue that no one is adhering to the laws and regulations, therefore they are defunct, and thus there is no incoherence between the legal requisites and their own practices. *Corruption is the norm in this case.*

[60]The confidence game entails a ploy confidence people use for obtaining money from one or more persons under false pretences by the exercise of deceit. A con person builds up informal social relationships with roles just for the purpose of abusing them; such exploitation is practiced in banks and business organizations by persons who learn to abuse positions of trust.

There are increasing numbers and examples of "conning" through internet presentations of self (Goffman, 1959). Goffman (1959: 218-9) points out:

> we find that confidence men must employ elaborate and meticulous personal fronts and often engineer meticulous social settings, not so much because they lie for a living but because, in order to get away with a lie of that dimension, one must deal with persons who have been and are going to be strangers, and one has to terminate the dealings as quickly as possible.

4. Group Prioritization with respect to Coherence: Issues of Identity, Performance, and Social Order

Why are group actors concerned at all about the coherence of their rule configurations? A further question relates to the issues about which group actors show the most concern with respect to coherency?

Coherency considerations are most likely in areas where group concerns of predictability, control/governance and social order are high: considerations such as, for instance, group identity and status, areas of sacrality, key collective activities and performances, and security**.** These considerations lead to the articulation of overarching *meta-rules* which define or assure that the particular rules selected or determined for a rule configuration are appropriate and fitting one another (and for fitting other rule complexes) and provide sufficient coherence in one or more areas of critical importance.

Of course, some groups have relatively low rule configuration coherence and may show little or no concern about issues of coherency, for reasons identified in the following discussion. But many groups are highly attentive to these issues; in large part because they concern matters of order and control in areas of major importance to the group.

- **Identity and boundary control.** If the group is highly concerned about identity issues and, in particular, distinguishing itself from other group(s), then it tries to assure coherence and implementability of recruitment and participation rules in the rule configuration.relating directly (or even indirectly) to group identity. Coherency failure results in ambiguous and confusing identity and status – for example, instances of boundary transgression and "pollution" of the group
- **The boundary between "the sacred and the profane."** In areas of sacrality, a group tries to assure coherence of rule configuration(s) relating to distinctions between the sacred and the profane, and securing the appropriate behavior in relation to these distinctive domains of social action. Incoherence or ambiguity of rules again leads to risks of dangerous transgressions and pollution of a sacred area.
- **Demand for highly effective collective performance.** In the cases (of Table 3), the military,[61] the business unit,[62] and the terrorist group try to assure coherence among rules relating to group coordination and *collective* performance – which are key concerns of such groups.[63]
- **Risky technologies and materials**. A group itself (concerned about its own safety) and/or the external legal and institutional environment demands orient to *high control of, for instance, risky technology* (nuclear power plant, commercial aircraft, high speed trains, etc.), dangerous materials such as hazardous chemicals and explosives. Therefore, it will try to assure appropriate and coherent rules among these relating directly or indirectly to effective deployment and controlled handling of the risky technologies and materials.

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[61] The difference between "battle-ready units" versus "barracks units".

[62] Of course, the context is important. A business unit in a demanding regulative environment or in a highly competitive environment may be subject to stringency and coherency controls differing significantly from a unit in a far less demanding environment (see later common on stable and unstable environments).

[63] Although a research unit is highly task-oriented and concerned with performance, there may be no overall coordination and regulation, unless it entails a mega-project like the Manhatten Project. There may be, therefore, multiple purposes, diversity in methods and means.

In general, the coherence of a group rule configuration is essential to group social order: to predictability, understandability, and controllability (through rule based controls) of behavior in the group and control over outputs. To varying degrees, groups succeed in establishing and maintaining rule coherency and stringency of implementation for the purposes of reliable performance and output and predictability – and social order generally – at least in those groups concerned about social order and effective performance relative to their purpose(s) and requisites.[64]

Rule coordination implied by the general group model. Established groups tend to develop and operate with a meta-rule or commitment rule which is one of the main bases for selection and coordination of the particular rules of a configuration (such prioritizations are especially noticeable when rule adaptations or changes are necessary).[65] Typically, such a meta-rule is associated with group purpose and identity.[66] As indicated in Table 2, identity does not concern only visible symbols but the special group purpose(s) and means of production and even its internal social structure and governance as well as location -- all playing a part in its "identity complex". In many groups, the meta-rule is embodied in, articulated by, and even imposed by a charismatic or powerful leader -- the principal source of "*group configuration design*"—possibly one external to the group.

5. Discussion: Failure to achieve Coherency and Order in Key Areas.
Groups may strive for coherence in key areas but fail to achieve it. The world is messy, confusing, difficult to order, because of not fully controllable internal and external forces. For instance, regarding key group concerns specified earlier:[67]

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[64] Notice that the need to coordinate participants and maintain social order is arguably a more decisive factor *in general* than technology in determining group social organization (Perrow, 1967) (see footnote 42).

[65] In times of change, adaptation of some rules or replacement/new selection may be considered necessary, but some changes are typically prioritized over others – in an appropriate or coherent manner.

[66] On the other hand, if the purpose of a given group is to "test" or "find uses for" a particular technology, this would provide the foundation or decisive principle for the group's institutional logic. Perrow (1967) claims a general, decisive role for technology. In our perspective, the rules of group purpose, leadership, and production function are usually more decisive, indeed often determining the criteria for specifying or selecting the technology and other resources. At the same time, once the latter are specified, they play a role in further rule determinations or selections, for instance, where the selection of the place (s) where group operations may be located and the times they may operate. Thus,contrary to Perrow, technology is *not* consistently a determining factor, although nevertheless an important structuring factor; see footnote 42 about Perrow (1967)).
Notice that the social activity group (column 3 in Table 2) may have decided to get together to bowl or to play pool. Once this choice (the activity and technology) has been decided, however, other determinations follow: where they would getting together, the times for doing this. Therefore, other constraints and constrictions come into play, although the main purpose of the group is simply to get together for sociability and fun.

[67]**Incoherent group functioning.** A highly incoherent group where many of the rules of the group configuration do not fit one another readily – or do not fit the conditions/context of the group, result in decline in capabilities and performance failings. We are so accustomed to some minimum level of coherence, that we can hardly imagine the truly incoherent but writers and performers do so, for instance Dostoevsky (Crime and Punishment), Kafka (The Process, etc.), the Marx Brothers (they could make their 100s of jokes because of our common understandings of coherence or order – even how particular types of groups should function), the director Tarantino played on this in Pulp Fiction, etc.

Identity and membership. Rules about membership in the group may be incoherent in they are contradictory or highly ambiguous about who is and who is not a member (or should be and should not be), for instance because of subgroups holding different views.[68] As a result, participants in the group cannot be fully certain about the loyalties, knowledgability (about group rules), and credentials of those participating in the group. The problem is not always one of ambiguous rules but that the group even with unambiguous rules lacks sufficient means to effectively control group boundaries – and, as a result, "non-eligible persons" participate in the group. This leads to erosion of trust and the sense of predictability and social order.

Sacralities; pure and impure differentiation. Most groups are concerned about protecting areas they consider sacred (secular groups have sacralities also, for instance, professional groups with their core professional principles and ethics). Incoherence may arise because the group categories concerning threats to or violations of a sacrality fail to identify and to regulate violations or potential violations. Some of these actions may be associated with, for instance, "professional routines" (algorithms) and practices.

One or more group production function(s) is incoherent.[69] Procedures are disorderly, for instance applied in the wrong context or in the wrong order, or they function contradictorily. Technologies, producers, and appropriate roles are wrongly connected and, hence, likely to be incoherent and prone to failure (of course, some wrong connections may be innovations that improve performance). Even cases where appropriate procedures are correctly applied, they may result systematically in the wrong outputs and outcomes because of shifts in the internal and/or external context.

Lack of sufficient knowledge or capability in an area of major concern about risks. The Group is concerned about, for instance, risk, for example risky technology or risky procedures, but lacks appropriate risk distinctions and knowledge or the capability to take necessary risk precautions to protect themselves. Even more extreme would be a group with very high concerns about risks but ignores them altogether out of belief about the likely intervention of God, powerful spiritual forces, or Providence! Or, that nothing can be done about the risks. Risk

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[68]The Swedish soccer club Assyriska FF has been a part of the Swedish upper level of football (First Division) for some time. A few years back Assyriska FF decided to recruit a player who was not Assyrian, because, as it was argued, one needs the best in order to stay in the Swedish upper division. Otherwise, the club would sink down, and ultimately fall out of the First Division. This initiative (certainly an "innovation" which had always recruited Assyrian players) led to a major controversy. The issue concerned whether Assyriska FF was only a football team or an ethnic group playing football. Some argued that in order to be able to compete successfully, one needed to be able to recruit from outside the ethnic community. Many in Södertälje saw this as betrayal of the Assyrian cause. Others (probably many of those who had invested money in Assyriska FF were concerned about their investment). Assyriska FF got its "alien" football player and the Assyrian fans still support the club.But, clearly, there was an historically established incoherence between being an ethnic club and trying to compete as such in Sweden's Division I (especially since the other Swedish clubs were importing players from Latin America, Africa, and other parts of Europe).

In the context of contemporary professional football, one cannot have a fully competitive entirely ethnic based team in Sweden, that is, if one has the ambition to succeed in the club competitions! The ethnic rules of recruitment and team membership are not then coherent with (fit with) the achievement goals in that context. To become a fully competitive football club vis-à-vis the others, Assyriska's ethnicity player rule has to be changed to a merit based recruitment rule. Conversely, if ethnicity trumps merit, then Assyriska FF would have to give up the goal of succeeding in Division I.

[69] One might bear in mind the classical case of the Garbage-Can model)

avoidance or protection may not be part of group practices, that is, there is a discrepancy or incoherence between a concern or value and actual practice. In some instances, it may relate even to a sought-after thrill of danger and risk-taking.

In sum, what we are claiming is that the characteristic coherence or logic of a group rule configuration is motivated by considerations such as identity, sacrality, effective collective action, and security; thus they need not always be related to ostensibly group purpose(s). Such considerations lead to the establishment of overarching meta-rules which are oriented to defining and assuring that the particular rules selected or determined in the rule categories are appropriate for the overall rule configuration and also appropriate or fitting for one another. However, such aims may fail resulting in cognitive-normative confusion, disorder and performance failings.

V. THE DYNAMICS OF GROUP CHANGE AND TRANSFORMATION[70]

1. Group System Maintenance/Reproduction and Transformation.

Our point of departure in investigating and analyzing the dynamics of groups is, of course, the systemic character, their complex interconnectedness and their openness to external forces that impact on group structure and processes as well as internal mechanisms that restructure group arrangements and processes. At the same time, there are interdependencies and interactions between internal and external developments as well as more complex loops that make for cascades and transformations (Baumgartner et al, 2014; Burns et al, 1987).

Many social groups are structurally and process-wise stable – that is, they are in equilibrium – to the extent that their contexts as well as their subsystem bases and group interactions/outputs are stable and reproduced (Burns and Dietz, 1992). For such stability – and sustainability over time -- groups must be able to replace at a comparable level the materials and technologies which they consume (use up) in their interactions and productions, in short, they manage to maintain the resource base. Similarly, they must be able to recruit new people to replace those in the group who leave or die – and these must have more or less the capabilities, value orientations and motivations of those members they replace. Finally, the rule regime must be absorbed/implanted in new members as well copied in group "manuals" and oral discourses (Burns and Dietz, 1992, 2001).

In sum, a group -- the subsystems of membership, resources, and rule complexes -- reproduces itself by maintaining/replacing its parts in the face of their loss, erosion, or demise ("turnover") (see Plagett and Powell, 2013:8). Failure at reproducing or replacing parts and their linkages results in group erosion, demise, or transformation; either the group ceases to function as a group or a new type of group is constructed (in all likelihood with some roots (residuals) derived from the earlier group).

Our group model enables us to analyze, understand and predict some features of a group's vulnerabilities to internal and external pressures, its resilence, and its change and development tendencies.

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[70]In research on the formation and transformation of public policy paradigms – and, in general, on societal transitios and transformations – our previous research has identified multiple factors that influence rule dynamics and evolution (Carson et al, 2009); also, see Burns and Dietz, 1992 and Sawyer et al, p. 40)).

The focus is on external agents and structural forces, on the one hand, and internal group agents (members, subgroups, or the group as a whole) as well as group structural mechanisms as drivers of group change and transformation. Disruptive developments can enter through any of the subsystems, with subsequent cascading: a) technological innovation may open new opportunities, for instance in improved production functions, that are pursued by the group (or particular agents in the group); b) new subgroups may emerge and tip the balance of power among constellations of actors, driving group developments in new directions, c) actors learn and reorient changing their roles, role relations, and production functions; d) group structural or process changes typically have unintended consequences; whether intended or not; they may serve to legitimize and anchor a new paradigmatic model for the group or change the balance of power among actor constellations; d) knowledge gains may contribute to new issues being identified and defined as problems that are unmanageable under the current regime, challenging the underlying logic of the regime and calling for new ways of thinking and acting.

The systemic perspective on groups suggests looking at internal and/or external drivers of change in groups and their interplay. Changes in context affect group bases and/or outputs leading possibly to disequilibria and social changes in the group (including transformation or collapse) (see Figure 2). Contextual changes may impact directly on one or more group subsystems, changing directly group properties and behavior (output patterns), or affect in negative ways production processes and their outputs.

Elsewhere Burns and Dietz (1992, 2001; see also Burns and Hall, 2012) explain changes in social organization in terms of three general mechanisms:

(1) Environments (social and ecology) that constrain and facilitate group activities and productions also select among populations generating shifts in distribution frequencies.
(2) Institutional arrangements in a group or organization which operate not only to constrain and/or facilitate agents and their interactions but to select among them providing resources, powers and influence, etc. differentially.
(3) Agents exercising power to restructure or to differentially select among social organizational models.

Several principles suggested by the group systems model are:

Principle 1: There is continual adjustment and adaptation in the application of a group's rule regime. Rules, role and relational complexes as well as production complexes are never complete, are never fully compatible with internal and external conditions, which shift over time and in changes shifts of situational locales; group actions themselves and their outputs bring about changes in conditions.

Principle 2: External forces and developments may induce changes in one or more group bases and interaction/production processes and outputs.

Principle 3: Processes internal to the group may induce changes in one or more group bases and interaction/production processes and outputs.

Principle 4: Typically, a change in one base leads to modification of others, the more so where there are relatively tight couplings and interdependencies.

Principle 5. Incoherencies emerging as a result of one or more changes in group components or connections may be neglected if they do not relate to particularly "critical" group concerns (see Section IV about group control prioritization). In other words, some degree of residual incoherency and contradiction are characteristic of most groups.

Table 6: External and/or Internal Drivers of Changes in Group Subsystems

CHANGE IN:	EXTERNAL DRIVERS	INTERNAL DRIVERS
RESOURCE BASE	External materials and/or technologies are no longer available or accessible (or in a market context "affordable" to the group)	Over-exploitation of non-renewable resources which cannot be readily replace (the Easter Island syndrome)
AGENTIAL BASE	Multiple factors may play a role: (1) Demographic (recruitment population declines naturally) (2) Market (other groups and markets succeed better in attracting recruits from the relevant population(s)) (3) Legal changes ban previous recruited populations (because of age, sex, or ethnicity)	(1) New recruits do not fit into group regime and the constellation of members and their relationships. (2)Group developments such as rivalries, tensions, and conflicts, reduce members' commitment and involvement with respect to the group, its regime, or its leadership and constrain or block group functioning and performance.
RULE REGIME BASE	Rule regime (or key norms, purpose(s), production functions, etc.) are no longer legal or appropriate (forbidding the production or sale of products or services, designated as banned)	Group rule reforms are driven by learning, discovery of incoherencies,[71] performance failings, unanticipated changes in the internal and/or external environment A rule regime may not engage group members to reproduce itself, for instance: (1) it has termination rules; (2) it lacks one or more production functions essential to group reproduction (e.g. internal and/or external governance; (3) production complexes fail.

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[71] As discussed in section IV, incoherencies concerning peripheral issues are likely to be ignored. Then again, one or more members may make an issue of such neglect. Some groups are extreme in their commitment to a norm of absolute coherence, making neglect unlikely.

Below we illustrate the internal, external and combination drivers of change and transformation of group processes, structures and performances, suggesting the complex interdependencies and dynamic potentialities of group systems (see Figure 2).
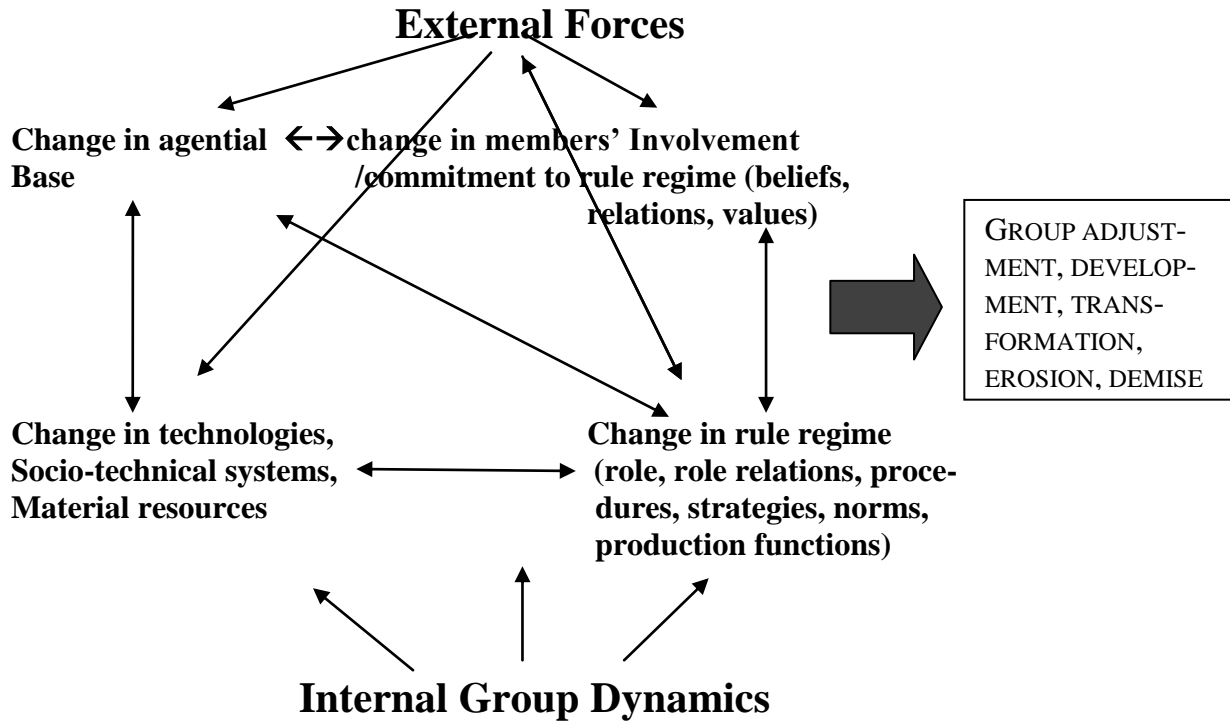
External Forces

Change in agential ←→**change in members' Involvement**
Base **/commitment to rule regime (beliefs,**
relations, values)

GROUP ADJUST-
MENT, DEVELOP-
MENT, TRANS-
FORMATION,
EROSION, DEMISE

Change in technologies, **Change in rule regime**
Socio-technical systems, ←→ **(role, role relations, proce-**
Material resources **dures, strategies, norms,**
production functions)

Internal Group Dynamics

Figure 2. The Nexus of Group Adaptations and Transformations

2. External Drivers of Group Change and Transformation

(1) Changes in context may interfere with, erode, or destroy a group's access to or control over technologies and resources essential for group production functions. For instance, the group or key members no longer have access to possibilities of external exchange or commandeering of key material resources and technologies. Consequently, the group's right and proper activities cannot be effectively carried out; the likelihood of group performance, reproduction, and long-term sustainability failing increases, other things being equal.

(2) As indicated in Table 6, contextual factors may interfere with, block, or change a group's agential base, e.g. the availability of new recruits or the level of capability of such recruits. Contextual factors often play a role in the degree of availability or unavailability of new recruits with the normative and cognitive orientations essential for the group (potential new recruits are constrained legally or socially from being recruited, or have inappropriate education and training – developments likely to undermine the group as originally constituted). Or, they lack adequate

motivation according to group standards; this may because the new recruits available may not be sufficiently motivated by the established group incentive structures, rituals, and discourses. More reliable recruitment of suitable members calls for changes in recruitment strategies and governance arrangements.

(3) In general, changes in the population(s) from which a group draws its membership may have multiple impacts, for instance, the population declines or the members no long fit the group or fail in performing group roles or production functions

(4) Major changes in many established groups in the contemporary world have occurred in the rules of *recruitment and involvement* concerning gender and ethnicity, because of general normative and legal transformations in the larger context..

(5) External demands or influences on members of a group may reduce members' commitment and involvement; as a result, member adherence to group rules and roles and engagement in production functions decline so that performance of members and the group as a whole become less reliable and trustworthy.

(6) Performance decline or failure results from decline in the quality or quantity of resource bases or in the quality or quantity of recruits obtained from the group's environment.

In general, the systems model indicates the importance of making distinctions in group contexts and assessing their impact on group bases and production functions and outputs. This relates to the previously mentioned distinction between threatening and non-threatening contexts. Similarly, earlier organizational research distinguished between stable and unstable/"turbulent" environments as an explanation of the development of, respectively, hierarchical, rigidly mechanical social orders versus flexible, "organic" orders (Burns and Stalker, 1961).

3. Internal Forces and the Dynamics of Change and Transformation

Examples of internal drivers activating and pressing for the introduction of a new or different rule regime are many, for instance:

(1) Members disagree about the interpretation or application of rules in the rule regime, for instance about rules for memberships or recruitment or about expected role performance such as that of the leadership. At the same time, group conflict resolution procedures fail to function effectively – in relation to such group issues; or, the leadership itself cannot properly resolve the tensions and conflicts. Serious, unresolved conflicts not only undermine group functioning and performance but in time erodes the engagement and commitment of (some of) the membership, leading to further malfunctioning and ultimately demise of the group (or a significant part of it).

(3) Loss of consensus about the group regime may emerge as a result of competition or conflict among, for instance, leaders or high status members.

(4) A rule regime other than the established group regime is activated by the group leader, key members, or powerful outsiders, and it interferes with the implementation/performance of the

established group regime (key norms, roles, relationships, procedures including those essential to group maintenance and reproduction).

(5) Groups try to make adjustments in their regime when they discover rule incoherence in key areas. Such incoherence may arise as a result of changing part of a system without changing other parts: new goals, new methods, new role relationships may have been introduced (possibility because of external requirements) that do not fit established production complexes, or vice versa.

(6) Groups some of whose members perceive technologies, rule regimes, participant configurations, or internal conflict as generating – or threatening to generate -- serious performance failings are more like to be activated, mobilize resources, and seek to bring about change. For instance, (a) major gaps occur between what the group is able to deliver in practice and what is called for in its primary purpose(s) and sustainability requisites; (b) Anomalies and inconsistencies arise between two or more regimes applicable in the group; (c) disagreement emerges as a result of competition or conflict in the group, for example, among its leaders or high status members.

(7) Group systems require some degree of order and predictability but some group behavior – or the actions of other agents or the environment – may produce group disorder and unpredictability. For instance, the goals and practices of the group system – or competition and other external pressures —drive innovation and change, which in some cases results in incoherencies and potential destabilization. An incoherence is likely between the processes of innovation and development, on the one hand, and their effective regulation and governance, on the other hand. We refer to this as *reflexive disorder or disequilibration* (Burns and DeVille, 2007).
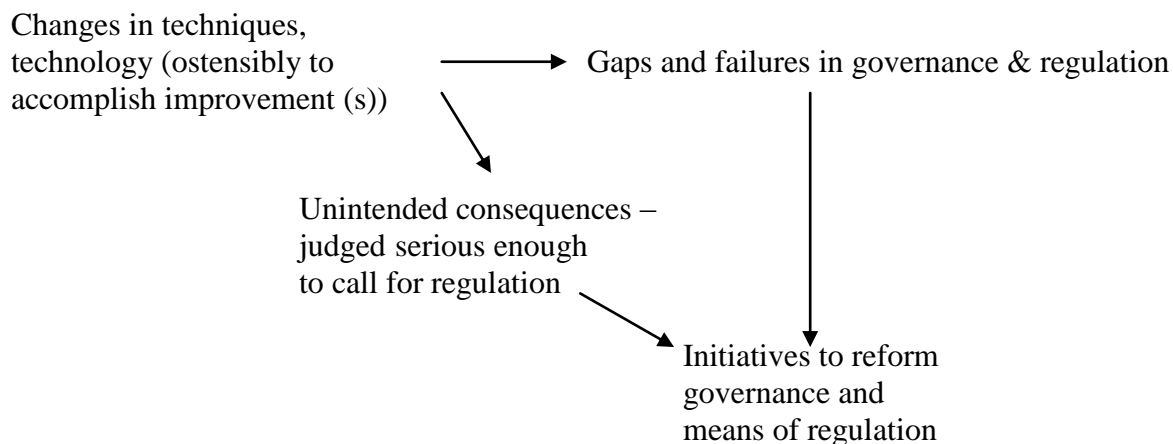
(8) In general, a common difficulty in group functioning is that incoherence (or imbalances) emerge between multiple production functions, particularly if there is little or no coordination between them or overall mismanagement. That is, there is a lack of sufficient regulatory governance to address imbalances between interrelated production functions or resource flows. One form of such incoherence arises when the outputs of one production function are inputs to another. The output resource of the first function may be at an insufficient level for the appropriate input level of the second production function. Put another way, the second function consumes at a level not matcheable (or in balance) with the supplier. This is another instance of unintended negative consequences.

(9). The interdependencies among production functions require some level of integration/regulation to accomplish stable, optimal performance (that is, to prevent or resolve negative interferences, counterproductive interactions, and unintended consequences). "Intregrative disorder" results when there is a lack of sufficient social coordination or integration
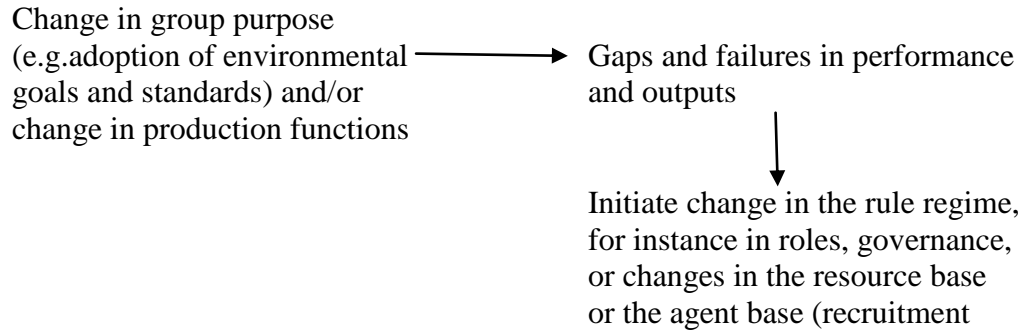
of critical subsystem couplings or their interdependencies, and interaction/production processes and their outputs suffer accordingly.[72]

(10) **Emerging incoherencies** in groups are common. One major generator of such incoherencies are group "forces of production" (learning, innovation in production, new techniques, adaptation initiatives) which do not fit group norms and governance relations and regulatory mechanisms (see "reflexive disorder" above). The result is regulatory failure and threats to group sustainability – unless reforms in norms and governance are introduced. Such problems of emerging incoherencies have been widely recognized, especially in Karl Marx and among some Marxist thinkers. Hence, the principle of the coupling of forces and relations of production: "*Forces of production*" (new knowledge, techniques, technologies) are incoherent/clash with established regulatory structures ("relations of production") (Marx, [1847](1982). In other words, new knowledge, new technologies, and socio-technical developments lead to conditions undermining or exposing the limitations of existing norms and governance machinery. For instance, the development of information technologies clash with established legal regimes concerning intellectual property rights. The introduction of the technology of organ transplantation – with the requisite of "organ harvesting" and the practice of triage in selecting recipients – clashed with a number of established professional medical, legal, and everyday normative rules (Machado, 1998).

Forces of production (new ideas, new techniques, new technologies, human creativity generally) tend to evolve in ways that are not anticipated (and therefore not intended) and are typically incompatible to a greater or lesser extent with established regulatory mechanisms, the normative and legal order.

Changes in techniques,
technology (ostensibly to   ⟶   Gaps and failures in governance & regulation
accomplish improvement (s))

                    Unintended consequences –
                    judged serious enough
                    to call for regulation

                                    Initiatives to reform
                                    governance and
                                    means of regulation

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[72] The problem of incoherence between system integration (interdependencies) and social integration (regulatory/governance and normative control) was identified by David Lockwood and developed further by Margaret Archer, T.R. Burns, M. Carson and P. DeVille, and others.

Change in group purpose
(e.g.adoption of environmental ──────────► Gaps and failures in performance
goals and standards) and/or   and outputs
change in production functions

                                           │
                                           ▼

                                           Initiate change in the rule regime,
                                           for instance in roles, governance,
                                           or changes in the resource base
                                           or the agent base (recruitment

The development of new values as well as knowledge and alternative conceptual models plays an especially critical role in group disequilibration and transition. Moreover, new conceptual models (or paradigms) provide a basis not only for diagnosing and responding to developments defined as social and policy problems; they also provide leads for structural reforms and for the reconfiguration of alliances and other agent configurations (Carson et al, 2009), which may or may not succeed.

4. External-internal Combinational Forces Driving Group Change and Transformation

(1) A decline in governance capability opens a group up to external influences and erosion of members' commitment and adherence to the group, its rule regime, and leadership. For instance, if the degree of group boundary control declines in such a way that the involvement or commitment of group members is compromised – due to the activation or emergence of loyalties to outside agents -- a situation of divided loyalties emerges with increased uncertainty and potential failings in group performance. This explains why some groups "requiring" a high degree of commitment/obedience to the rule regime try to limit or block "external contacts" (through which members might develop loyalties to other agents or regime conceptions or might obtain valuable allies or resources for internal group power and status games; controlling the inflow or resources to a group is essential to the stabilization of group social structure (Burns and Hall, 2012).

(2) Changes in the environment – threats, opportunities relative to the group bases – may fail to be recognized or taken into account, and a group fails to adapt or change rules, train members or recruit new members with appropriate knowledge and skills for the new context. In the face of such changes, the group become vulnerable and the likelihood increases that one or more bases and group performances and outputs will be undermined.

(3) Groups that have been weak-tie groups -- with relatively low commitment and engagement -- may change to a relatively strong-tie group because of external threat or new charismatic leadership, strengthening attachment to the group, its norms and social order. Of course, a major threat may evoke a free-rider mechanism in some members, and weak group controls weaken further; this may occur because of members' common judgment that there is nothing the group can do about the threat and the best strategy is to escape or dissolve.[73]
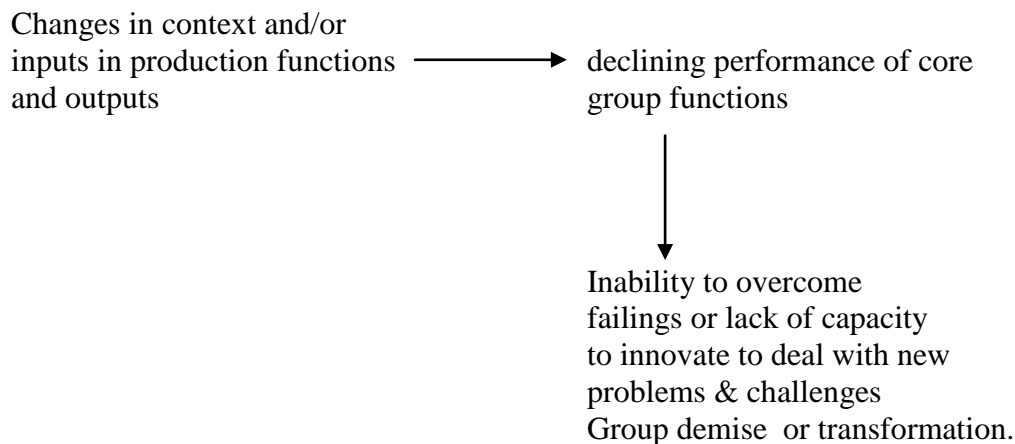
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[73] Forces operating to weaken group coherence and integration include the disappearance of an external threat or challenge. Group leader who "divides and rules" in relation to group members or subgroups or divisive members who contribute to conflict and instability in the group. There may be differences among members about values and

Similarly, a group that has developed strong-tie relations because of external threat or the inspiration of a charismatic leader, may shift to weak-tie relations in the face of a decline of external threat or the loss of a charismatic and persuasive leader.

(4) Groups modify or transform group subsystems and, in particular, their rule configurations in adapting to changes in their action conditions, for instance internal changes in the group resulting from innovations in techniques or technologies; or external changes due to new legal regulations, norms, new or changed agents in the environment who are competitors or opponents to the group, thus, calling for group re-orientation to the environment and formation of new production functions.

(5) Group activities and outputs may undermine subsystem bases and capabilities (future potentialities). For instance, the output consumes or erodes limited group resources at a rate faster than the available replacement rate, and jeopardizes the maintenance and reproduction of the group. The "Easter Island syndrome" entailed the total deforestation of the island (because of clan competition to construct and move the massive sculptures using timber for scaffolding and railing. Or, a group through its actions "repels" potential recruits (for instance pedophilia scandals in the Catholic Church may have contributed to reducing recruitment to the priesthood.

The group overuses (or uses resources at a rate faster than the possible replacement rate) so that key resources essential to core group activities and relationships, including reproduction of the group – is not properly replaced or alternatives to the over-exploited resources are not available. As a result, not only group performance/production are likely to fail (or fail to meet critical goals/values) but group maintenance and reproduction become ineffective.

Changes in context and/or
inputs in production functions $\longrightarrow$ declining performance of core
and outputs $\qquad\qquad\qquad\qquad\qquad$ group functions

$\downarrow$

Inability to overcome
failings or lack of capacity
to innovate to deal with new
problems & challenges
Group demise or transformation.

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beliefs, which threaten group functioning and sustainability, as in the case of ideological divergence in political groups or parties, or religious movements. One strategy is for divisive members, heretics to be expelled from the group. Differentiation in perspective also occurs in professions in bureaucratic organizations: professional vs bureaucratic orientation among members

Groups in such situations must find alternatives, for instance, to establish alternative production functions using materials and technologies differing from those previously used. Or possibly an expansion of resources and recruits or reform of production functions would allow for increasing output.

Group transformations and development take place through a series of iterative transitions in which changes in one group element bring about changes in other elements through the actions of key agents, which may reinforce the initial shifts in feedback loops. Some configurations are more "resilient" than others, meaning that they can absorb disruption without significant effects on their basic logic and structure. Others, as in many of our illustrations, undergo major restructuring and transformation. What remains stable and what is changed – and the logics of these developments – will be taken up in later work.

VI. CONCLUSIONS

This paper presented and applied a general model for investigating and analyzing groups, their functioning and outputs. We have stressed that a group is a *social system* consisting of a set of persons (and/or collective agents) that is constituted and regulated by the group's rule regime (shared culture) to which the members of the group are oriented and committed to a greater and lesser extent, and which binds them together and provides a common name, identity, rules and roles (ideology for political and religious groups), group regulation and sanctioning ofmembers' behavior in the group as well as their collective behavior vis-à-vis external agents. Members are mutually aware of their shared orientation and identification; their regime specifies criteria for membership (doing this either by listing of names or by application of a principle.

Our systems model enables one to describe and analyze not only group structure and functioning, but the degree of integration and cohesion of the group, its effectiveness in accomplishing or realizing group goals or purposes – and the systemic factors underlying these.[74] It mapped out how members (knowledgeable, capable participants), their rule regime (institutional and cultural arrangements which encompass purposes, goals, productions functions and tasks, social structure and division of labor), their resource base (technologies, tools, and materials), and their production/output performances are intertwined and operate in their social and ecological contexts.

In our perspective, a group *operates as a complex, dynamic system* in the context of other groups and ecological and material systems. The general systems model enables us from a single perspective to define and distinguish all such functioning groups in terms of their three core group subsystems (bases) and their output functions, and the contexts in which the groups

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[74] Other key properties of groups are systematically distinguishable within the systems framework outlined here: for instance group size, degree of integration or strength of ties, degree of differentiation, degree of boundary maintenance (exclusivity) and integration. For instance, the distinction in Parsons, Bales, and Shils (1953) between task-oriented and expressive-oriented groups relates to the *dimensions of group purposes, activities, and performances/outputs*. These dimensions correlate, of course, with other dimensions in the regime such as definitions of roles, authority and status relationships. Group members may experience pleasure and satisfaction in both task-oriented and expressive-oriented groups, but in the case of the former, it is the performance and the outputs that are decisive in assessments and degree of satisfactioin, while in expressive-oriented groups, assessments and degree of satisfaction derive from the pleasure and enjoyment of group activities, for instance, in group "fun and games", or talking among themselves, or engaging in "non-competitive" sports activities. Winning or super-achievement is not the point in contrast to task-oriented groups (in war, commerce, science, or professional sports).

operate and develop. As a constructed social order, a group acts with a definable logic and with certain internal and external capabilities and powers.

What is the unique value of the sociological systems model of groups outlined and applied here. Above all, it makes use of the general systems language and mode of analysis (which is shared to a considerable degree in the natural sciences, engineering, and mathematics), at the same time that it readily or naturally incorporates major social science concepts with which to describe and analyze groups in terms of their human agents, social roles and relationships, their exchange and control mechanisms, their resource mobilization and deployment, and production processes and impacts in a given social and ecological context.

Our sociological systems approach has led to the development of a spectrum of new analytic concepts: group systems with their three subsystems, the conceptualization and elaboration of rule regimes and their architecture, particularistic and context dependent group rule configurations, the logic and coherence of such configurations. The group systems model explains in part why a group develops a particular multi-value complex which includes not only a group's purpose or *raison d'etre* but also *its requisites* that relate to internal and external conditions that the group is compelled to realize if it is to be sustained in time and context.

The model presented combines universal theorizing (group action capability bases, rule categories, and general production functions) with context dependent, particularistic theorizing (the unique group rule configurations and the contextualized group interaction and production functions).[75] From a single perspective, similarities and differences among social groups can be identified, compared, and analyzed by means of:
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- The universal subsystems of groups
- The universal character of rule regimes and their rule categories
- Universal production functions, in particular those relating to group purposes and sustainability requisites.
- The universality as well as the particularities of group rule configurations that provide a systematic basis to distinguish and compare analytically all functioning groups.
- The patterns and mechanisms of group transformation and evolution.

There were several applications of the model to classical questions relating to agency (individual as well as collective actors), the nature of social structure (rule regimes), social change (adaptation and transformation of rule regimes, resource bases (materials and technologies), and agential bases (knowledgeable, capable group members who are carriers and implementors of rule regimes), and Goffman's differentiation between frontstage and backstage (interpreted and analyzed in terms of distinct rule regimes along with translation rules between the two systems).

In sum, the systems model arguably serves to represent and explain similarities and differences in group structures and processes, and in changes in group structures and processes. It also orients research to a number of new research questions and issues concerning group subsystems and their interdependencies, rule regimes and their architectures, rule configurations and their coherency, patterns and mechanisms of group transformation and evolution, among others.

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[75] Universal grammar may have parallels with Simmel's "formalism". But as Gross (2009) suggests, the situations in which actors behave are always characterized by the particularity of content.
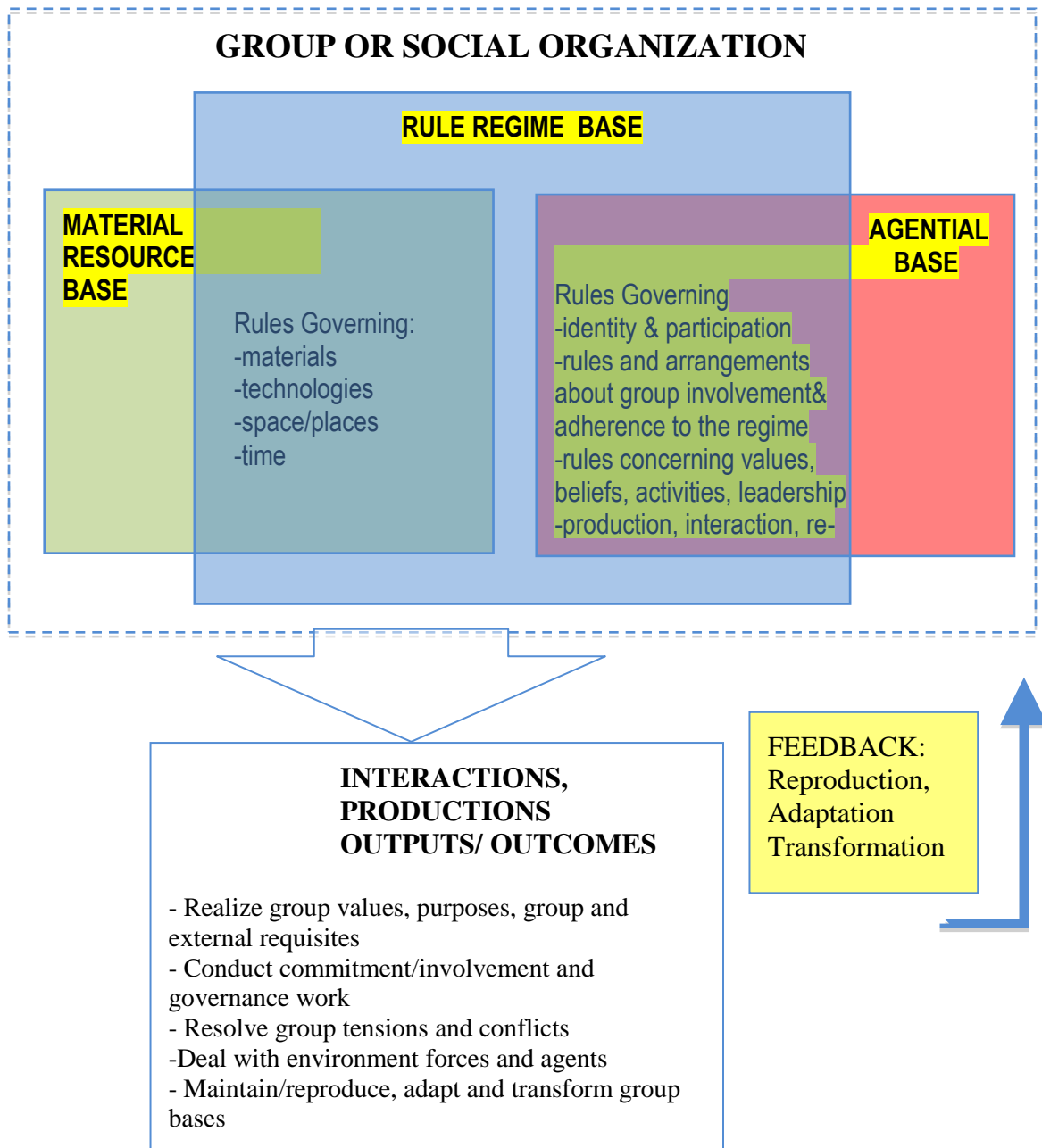
Scope and conceptual limitations: The model presented here is appropriate for groups constituted and functioning in terms of specifiable capability bases (agential, resource, and rule regime bases) and group production functions and outputs. Experimental and artificial groups as well as networks are not readily covered by the model because they are characterized by weak or non-existent group subsystems -- even if they are characterized by interactions and outputs corresponding somewhat to those of established groups. Similarly, it has little to say about fleeting aggregates, momentary groups, and crowds as well as networks generally; nor is it of much relevance to situationally-conditioned "group" processes (Zelditch, 2013:13)

In general, in terms of our framework any aggregation of individuals or agents lacking an articulated shared identity and rule regime (with its category systems, norms, conceptions of roles and role relations) and common resource base and without common group interactions and production functions would not be considered a "functioning or bona fide group"; the actors might be at best part of a crows or acquaintances in a network. There is no group *system* with its organized subsystem bases and its organized, regulated productions and outputs.

APPENDIX: UNIVERSAL RULE CATEGORIES AND DIFFERENTIATION OF GROUPS IN TERMS OF RULE CATEGORY CONTENT.

1. Systems Model of Social Groups

SOCIAL AND ECOLOGICAL CONTEXTS

GROUP OR SOCIAL ORGANIZATION

RULE REGIME BASE

MATERIAL RESOURCE BASE

Rules Governing:
-materials
-technologies
-space/places
-time

Rules Governing
-identity & participation
-rules and arrangements about group involvement& adherence to the regime
-rules concerning values, beliefs, activities, leadership
-production, interaction, re-

AGENTIAL BASE

INTERACTIONS, PRODUCTIONS OUTPUTS/ OUTCOMES

- Realize group values, purposes, group and external requisites
- Conduct commitment/involvement and governance work
- Resolve group tensions and conflicts
-Deal with environment forces and agents
- Maintain/reproduce, adapt and transform group bases

FEEDBACK:
Reproduction,
Adaptation
Transformation

2. Universal Rule Category Table

Below we provide a more elaborated table of the universal rule categories, followed by illustrations of rules in each of the categories, for instance the particular rules that make up group rule configurations**.**

Table 3. Universal rule categories of social group and organizational rule regimes[76]

TYPE OF RULE	FUNCTION	COMMENTS
IA. Group or Common Identity Rules: What is/are our name(s)? Rules for changing or elaborating the name.	Name & naming the group	The group shares a rule(s) about what the group is to be called, often also share rules about elaborating names and being sure to use names distinguishing it from other groups
IB. Group or Common Identity Rules: Who are we and how are we identified – to ourselves and possibly to others (some groups have rules of secrecy so that they cannot be identified by external agents).	Defining and regulating right and proper group symbols, dress, shoes, food, drink, etc. Also specifying the performance of rituals characteristic of the group – either individually or collectively performed In general, a group differentiates itself from other groups and from its environment	Symbols including hats, hairstyles, beard styles, shoes, clothing; foods, also associated with particular interaction patterns and rituals; and possibly the regime itself. Some groups do not identify themselves by their clothing, food, etc. but their membership in a group with a particular name.
II. Membership & participation/involvement rules Who belongs and doesn't belong? What level of adherence to and involvement in the group is	Rules concerning inclusion/exclusion – also recruitment and removal/exit. In the universe of possible participants, only those in a certain subpopulation or category may join and participate. Up to the 19th – and well into the 20th century in many societies – women were not allowed to be "citizens" with the right to	Of course, recruitment may be discriminatory based on religion, class, gender, age, education. There are highly

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[76] Talcott Parsons (1951) proposed universal "pattern variables" (for instance, univeralism vs particularism, affective neutrality vs affectivity; achievement versus ascription, collectivity vs self, specificity vs diffuseness). Other conceptions of universal social organizational dimensions are: hierarchy, degree of institutionalization and degree of formalization. While all of this is compatible with the rule regime concept, rules, rule complexes, and rule regimes as well as rule regime formation and transformation are, in our view, more fundamental concepts in the social sciences.

expected? Group recruitment pattern of persons who fit group identity, level of expected adherence and involvement, and ability to perform prescribed tasks	vote or hold public office. They were not allowed to be ministers and still are not allowed to be priests in the Catholic Church. Group norms define roughly the appropriate level of commitment to or involvement in the group that membership should have or exhibit in general as well as in particular activities.[77] Those belonging to the group or organization are expected (should) involve themselves to an appropriate degree and in expected ways – specified by group rules.	differing levels of commitment expected in diverse groups.
III. Shared Purpose, Value orientations & ideals and goals. What is the purpose of the group? What does the group consider good and bad? What does it stand for?	These rules define relevant values, purposes, and priorities regarding group activities as well as outcomes and developments. Appropriate values for the group: concerning group relations, relative value of in-group and others, spirituality and the sacred. Distributive justice rules, for instance, rewards/payments and penalties for collective and individual performances with respect to general value(s) as well as specific role performance(s).	Value(s) like that of creativity or of money are expressions of the group's ability to command proper orientations and obedience. Group values as socially precious or sacred objects through time.
IV. Shared belief/model rules How do we view ourselves and the world, our cognitive orientations, distinctions and models of causality and dealing with causal forces? What are our beliefs about our powers and capabilities vis-à-vis others?	Shared group beliefs/models of appropriate or relevant "situations", definitions of the situation, causality, and causal attribution. Framing and conceptualizing types of problems and their causes and solutions. Problem solving rules and algorithms (the right means to deal with the problems). For instance, making distinctions about outside groups, dividing them into "races", attributing to them properties and	Shared beliefs/models are expressions of the group's ability to command proper orientations and obedience

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[77] This applies even in group activities such as "fun and games". Participants may be criticized if they do not engage appropriately, either "not trying hard enough" or exhibiting "over-enthusiasm" or "inappropriate competitivity."

	potentialities/capabilities.	
V. Social relational and structural rules How do we relate to one another? What is our internal order?	Rules of position define roles and appropriate role occupants and role relationships including control relationships Rules define authority & leadership rights as well as property rights (ownership rules) – what the group owns or control and who decides over their allocation.[78] Relations of the group and individual members of possessions (property). What may actors do or not do with group and individual property in the group context. Group may appropriate individual's property. Or individual retains rights to certain properties. In general, a groups has a subcomplex of rules relating to what actors may or may not do, must do, or are forbidden to do with the possessions in the group context, for instance a particular property may or may not be permissible in the group context, or it may not be sold or transferred to outsiders, or it may be transferred only after a collective decision.[79] Group norms define appropriate emotions for relationships, for instance, the degree of respect or obsequiousness, emotional control vis-à-vis a group leader, someone or something sacred to the group, toward group members and outsiders.	Roles are not only "internal". In some groups, the same person may play multiple roles, e.g. internally in leading the group and resolving conflicts and externally in negotiations or in cooperation or conflict (see IX below).

[78] Concerning actors in their particular positions and the roles they play, those in positions of high status and power are allowed, even expected to act in particular ways, which are not permitted for subordinate or ordinary actors. Husbands in many "advanced countries" such as the USA had a right to physically punish their wives so long as "the rod was no thicker than a thumb." Women could not speak publicly – and, in particular, could not preach in most churches (which still obtains for most of the Jewish, Muslim, and Christian faiths).

[79] Of particular importance in social life are *distributive rules* (Burns et al. 2014). Rules about appropriate/required/forbidden distribution of resources to actors in group situations, for instance rewards/payments and penalties for collective and individual performances. (1) with respect to general values and norms, laws and sanctioning; (2) with respect to role and sub-group performance.

VI. Production and procedural rules/algorithms What are our characteristic practices, production activities, our ceremonies and rituals?	Rules define what are right and proper activities for the group and group members to engage in. Members might be expected to cooperate with one another generally or in particular areas of activity, to make "sacrifices" for the group, to demonstrate solidarity through actions for the group and its members. Production rules and processes in particular group situations, including internal governance and enforcement and sanctioning. Also, there are sub-complexes relating to structuring incentive arrangements for establishing and maintaining member involvement-adherence to the group, its leadership, and rule regime. Communication rules, rules about scripts and discourses as well as rules about who may or may not initiate communication, or particular types of communications such as directives or evaluations Procedures/algorithms for deliberating and deciding as a group, that is collective choices.[80] In what ways are collective judgments and decisions to be made: through an authoritarian leadership, negotiation, democratic voting, etc. Rules for defining problems and problem-solution, resolving conflicts and accomplishing distributive justice.	Not all group activities are prescribed by the regime, some are spontaneous and outside the core domains, possibly outside of group times and places.
VII. Rules for dealing with factors and other agents in the	Group orientations and strategies derive from group beliefs and models about agents and factors in the environment.	Typically, one or more members deal with external groups and

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[80] Collective Choice Rules and procedures concerning the linking, coordinating, collectivizing of actions of the different actors: (i) the ways in which roles are interlocked (as superordinate-subordinate interaction in Burns and Flam (1987); also, see Burns et al. (1985) on differing models of such relationships; (ii) ways in which collective judgments and decisions are to be made: negotiation, adjudication, democratic voting, etc.

environment	(this category is a particular category of group production rules)	agents. The group may recruit a member to meet and negotiate with an external authority.
VIII. Rules for changing rules and group cores	Group values and beliefs enter in regulating change, innovation, creativity	
IX. Technology & resource rules What are the characteristic technologies and materials which we utilize? And those that are excluded?	Rules define necessary and appropriate technologies and resources for group activities. That is, there are appropriate/permitted/required/forbidden techniques and technologies as well as materials. For instance, the acceptable technologies used by physicians in dealing with their patients in particular areas of illness.	As indicated elsewhere in the text, the group either controls essential technologies and resources (for instance, through physical or ownership control, or must have access to and obtain them from external agents)
X. Time and place rules What are "our" places and times? How long is the group to continue or expected to endure?	Rules define times and places for group activity or activities. Appropriate times and situations for the group to be activated and functioning as "the group." Answers the question if a particular situation is one appropriate for group activity.	The group must have access to (rights, ownership, control) the places (and times) appropriate for group activities

3. Illustrations of rules in each rule category.
Below we illustrate for each universal rule category some of the rich variation in rule contents, illustrating the great diversity of rules making up group rule regimes. As pointed out earlier, rule regimes may or may not be consistently formalized. And the rules include not only directives (normative rules) but evaluations and value judgments (value rules) and descriptions (descriptive or factual rules, beliefs). Most importantly, *the model specifies the universal categories and the types of production outputs, but leaves the contents open to contextual influences and determinations. To a greater or lesser extent, groups themselves determine or select the particular rule category contents, as illustrated below* – but they are often following designs or prototypes in their fields of action

(I). **Group Identity Rules**. Groups are to a greater or lesser extent identified by their purposes, their modus operandi, or some particularities of their rule regimes (charismatic leadership, extreme coercion, or intense concern with spirituality and the sacred). In addition, most groups have rules concerning concrete identity properties – but with great variation. Some stress visible symbols: clothes,[81] hair styles, tattoos, gestures, speech (accents), and styles of behavior. Similarly, particular technologies (rings, lapel pens, the doctor's stethoscope, the bishop's staff) may be emphasized in certain groups, others not. Some groups find the physical structures (built environment) in which they associate or meet essential, yet others do not. Group names may be local, a street or ethnicity area ("Irish Club"), or the name might include a type of task, expertise, or sport. It is not uncommon that the name of a charismatic leader is taken by a group. The variation in the content of Category I is very wide-ranging and reflects human imagination and ingenuity.
Identity markers are as much for the members themselves as for "outsiders". At the same time, many particular rules and sub-systems of the group rule-regime may define or contribute to defining a group or constructing its identity, for instance, particular norms and rituals, leadership roles, types of social relationships, characteristics of membership, particular places where the group gathers and the particular times they do it.
(II). **Membership and Participation/Involvement rules**. Membership rules (inclusion/exclusion) are a key category (II) of the rule regime. Members with certain characteristics are accepted, included: for instance, male candidates in the case of all male or or female candidates in the case of all female clubs. These rules specify criteria of recruitment, selection and membership. The criteria may be based, for instance, on family or friendship connections, ethnicity, gender, religion, education, profession, etc. Thus, group recruitment (and "discriminatory" exclusion) may concern religion: no Jews in this group, or no Muslims; similarly for persons those because of their ethnicity or educational background. On the other hand, the recruitment rules of the group may be very open to all adults or to large groups of people with certain types of jobs or work experiences, etc. Such differences in recruitment rules establish some of the particularities of the membership base.

Group members are expected to varying degrees to accept and abide by group rules. Involvement concerns motivations, emotions, identification with the group and its agential, regime, and social

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[81] Some ethnic, religious, professional, and other groups are consistently dressed for public presentation of identity: many Islamic groups, nuns, priests, monks, military, police, etc.

structure features. The number in a group is not critically important except for the small numbers (2,3,5) discussed by Simmel (1898) (but also, see Fine (2010, 2012) concerning face-to-face interaction). More important is the varying frequency and qualities (for instance, multi-modal) of interaction which occur even in sizeable communities. Obviously, large groups do not provide opportunities for all members to interact face-to-face, although such a possibility may be a part of group imagination. Large scale groups are a particular challenge when it comes to recruitment/involvement and maintaining/reproducing and regulating their agential, resource, and rule regime bases.

The nature and quality of member involvement in groups varies considerably. Some groups expect and try to enforce strict adherence to the group, its regime, its leadership (for instance, elite military and police groups, terrorist groups, some extremist religious or political groups); other groups are laissez faire about the stringency and enforcement of their standards, norms and roles, allowing for considerable individual interpretation and choice about the degree and quality of engagement: many clubs, professional associations, and voluntary organizations, among others, provide examples of such laissez faire arrangements. This concerns not only the degree or intensity of involvement but the control mechanisms used or applicable. Regime descriptive and normative rules typically specify in the governance function the coercive, remunerative, or normative mechanisms (in the latter case, through appealing to particular norms or ideology).

Involvement/participation rules for group members typically correspond to group production rules concerning recruitment and governance (see below or Table 2). In an agential base, not all "members" need to be fully socialized but non-socialized members must be controlled/controllable so that the group functions properly and effectively.

Typically *there are multiple mechanisms which motivate/compel members of a group commit themselves to or adhere to the group, its rules, and its leaders.* People may be recruited to a technical or scientific group because of the resources provided for the group, or the attraction of the prestige of the group or the high remuneration, or all of these. Often the motivation is over-determined and, therefore, hyper-stable (Burns, 2008): (i) Strong affinity to the group itself, its leadership, particular members and/or the rule regime; (ii) Identity, status from association with the group, for instance, professional involvement with a prestigious group or group leadership; (iii) Group symbolism and status defines an attractive group and its identity; (iv) common belief, ideology, values fit with the group's image, behavior, and identity ("normative fits"); (v) Ritual processes bind members to the group and to one another and provide experiences of belonging, mutual feelings, reciprocity; (vi) Remuneration: Rewards such as payment, career, respect, consideration, good reputation, expectation of future help (that is, *potential* help), access to group or leader resources. But also protection from outsiders as well as from some insiders; (vii) The group has strong norms of reciprocity among members (and with the leadership); (viii) Groups produce collective effervescence, creating passion and ecstasy in shared spaces, as Durkheim (1976) understood (Fine, 2012:166). The challenge is to sustain such emotional attachment in the face of routine and external demands (Fine, 2012:166). (ix) Force is deployed in the form of severe physical or psychological punishment, thereby constraining or regulating deviance.

Strength of group ties is a variable stressed by Fine (2010:163) and Granovetter (1975) relating to an earlier sociological distinction between primary groups (strong ties) and secondary

groups and networks (weak ties). In our model, the involvement-adherence factor encompasses variables that are a matter of degree. Members' ties (attachments, sentiments) may be to the group as a whole, to its particular rule regime, to its leadership, and/or to particular members. These diverse orientations are often conflated, making a difference in the quality and stability of involvement. For instance, involvement is weakened or collapses for members attached to the particular group leader (a person) when that leader leaves or dies. Similarly, if attachment of some is to particular members, and these drop out, then involvement and commitment to the group is eroded or collapses. Since strength of ties is a matter of degree, and this tends to vary among members, it is a distributed pattern (Hannerz, 1992). Groups that consist of members who are attached to the rule regime (group identity, ideology, practices) and to the leadership as well as to many members are involved in a different way and to a different degree than members who are involved because a few of their friends are involved. In some groups constructed on the basis of charismatic leadership, members express a form of "love with" the leader.

Of course, most task-oriented groups are built not on any attraction or genuine attachments but on remuneration (R) (payment for group involvement and production) or even on coercion (C) (task-oriented work teams constructed and functioned, as in durable slave systems and in the Nazi and Soviet camps using forced labor). These R-groups and C-groups, respectively, are distinct from affinity groups, A-groups. These are all, however, ideal types. Most functioning groups make use of mixtures of group commitment and social controls.

In general, motives for group involvement may be complex: friendship, status, fun, flow experiences/collective effervescence, normative/spiritual motives. Fine (2012:161) points out that members of, for instance, a religious group may be more oriented to group DDUKUruib – increased life satisfaction – than to the religious system of faith (Fine, 2012:164)… "commitment to other seekers is often as powerful – or more so – as one's relationship with the divine" (or the system of belief). As pointed out earlier, the level of adherence and involvement expected of members varies significantly among groups.

(III). **Shared Value orientations and goals**. These rules specify what purposes, values and goals the group and its members are expected to orient toward in the context of group performances and productions. They vary greatly among groups from "having fun" of some sort or engaging in a sport, providing mutual psychological or material support, making money/becoming rich, producing new knowledge, helping/serving clients, successfully stealing from or robbing others, defending or "liberating" their community, terrorizing particular groups or communities, or multiples of such value orientations. These values are realized – or implicated – in the production rules and procedures of the group, the division of labor, and the resources mobilized and applied.

Often, the group itself is a value, and members are expected to treat it respectfully. Groups set value on – and arrange in practice – particularly social relations whether hierarchical relations or, to the contrary, egalitarian relations (see category V below). Also, group values may concern private property – supporting it or possibly opposing it. In the latter case, groups may expect members to share with the group most of what was at one time their private property. A group and its members may value themselves superior to other groups or populations.

(IV). **Shared beliefs.** Members of a group share beliefs about, among other things, particular concepts about themselves, others and their social and material environment. In the case it is a professional group, it is likely to see itself as in large part competent and ethical; perhaps, it also sees its clients as genuinely needy, although some of these may be experienced as "difficult,"

sometimes "ungrateful." Beliefs among many groups concern the environment, whether it is threatening or supportive, whether it can or cannot be changed, and, if changeable, how the group might go about dealing with it.

(V). Social structural and relational rules. Category (V) of the group rule regime defines relations among group members, their roles and role relationships, norms about reciprocity, competition and conflict.

Groups vary in the degree to which they stress hierarchy (authority, status differentiation) or equality; or the degree of emphasis put on reciprocity and mutual obligations; or the degree of tolerance of deviance.

(a) What determines the "strength" of the group's social structure – and integration -- is the rule regime and group control over power resources (in part constituted and regulated by the regime) with which a group order can be maintained, realized, and reproduced.

(b) What is the basis of group members to orient to, adhere to, comply with the rule regime. Above, we identified multiple (often over-determined factors in members' commitment and compliance, although there is variation among members to some extent (Burns, 2008).

(c) Integration of a group may occur because of external threat or challenge which members feel requires cooperation/collaboration to deal with.

(d) When members, particularly key members, lose their orientation and commitment to the group, the group is destabilized and is likely to erode or distintegrate, unless a revitalization be set in motion.

(e) It is not only motivation and adherence which is critical to group order. Group functioning and stability depend on effective coordination, leadership, and conflict resolution as well as maintenance of group agential and resource bases. A group leader may manage to synthesize or integrate a group as part of her leadership or governance functions.

(f) Any group may, in general, consist of some degree, even extreme degrees, of weak ties. This is apparent in the case of groups built up on the basis of coercion or employment based on low remuneration and exploitation. Some elements of groupedness (compared to ideal type solidary or strong-tie groups) are missing or undefined.

- In general, in many groups, member commitment to the group, its norms, and its leadership are weak. Indeed, there may be no clarity about who is "controllable" and who is not, who is a genuine member and who is not. In general, weak-tie groups have weak controls over members, and members have relatively weak controls over one another and over the group as a whole. This makes for feeble and uncertain collective action and mobilization of resources.
- When people from a work place get together for a drink after work, they make up a group of sorts, but the ties are typically weak. Their purpose is none other than socializing. There are weak shared norms and possibly vague role differences, but not necessarily

friendships or close affinities. Similar observations apply to variation in the degree-of-strength in dyads, triads, etc.

The degree of attraction and integration (strength of ties to the group) may depend on the group's status, power resources, symbols as well as interpersonal links (for instance, a candidate or potential member wants to be in the group and accepts the group's regime because she is friends with or attracted to a key member of the group. Or, she is strongly attracted to the group as a whole and/or to its leader. Hence, those relatively frequent cases of a strongly adherent-committed group membership deriving from a charismatic/attractive leader.

Groups differ significantly in the degree they establish and develop strong ties and patterns of reciprocity and cooperation among members. Our systems model distinguishes between the degree of strength of ties of members to any group (Granovetter, 1973) – "weak-tie groups" and "strong-tie groups" are simply based on a dichotomization of a variable which is a continuum distinguishing groups.

(VI). Production Rules and Procedures
Groups regularly produce *organized collective action* with membership participation, division of labor, leadership, and the application of resources. But they vary greatly in their particular group rule configurations and patterns of symbolic interaction – although their outputs may in some cases be similar.

Rules and rule complex in this category specify how one is to produce (or obtain) specific materials, objects, services, performances, etc. in accordance with particular specifications and standards. The group may produce these for its own use and consumption and/or for external exchange and consumption. Given a group's value orientations, certain productions can be expected: groups oriented to money gains engage in exchange activities from which they expect to make money. "Liberation" groups engage in what they believe are liberating for others, for instance, particular communities and populations to which they are oriented. Terrorist groups produce acts of terrorism directed at meaningful targets in their scheme of things.

Production rules and procedures are designed and implemented on the assumption of appropriate or expected levels of member involvement/engagement. There are often roles designed for purposes of monitoring and regulating group activities and productions (but there are highly integrated groups where all members contribute). Internal governance and regulation are rule based and produced to accomplish group integration, stability, and effectiveness.

In general, groups vary in their production of internal governance, powering and regulatory processes and reciprocity.

(a) Group members translate rule regimes and their rule categories -- whose contents vary greatly among groups -- into particular interaction patterns, social control and regulation, including the maintenance of role patterns, leadership, and group performances.

(b) Social control including socialization are based on group specific agential and group procedural mechanisms: forms of recruitment, expulsion, regulation of role performances (for instance males and females, leaders and subordinates)

(c) Patterns of agential powering vary among groups. Traditional (conventional) versus formal-legal patterns (in case of registered and publicly legitimized group, e.g., a condominium's self-governance

(d) There are greater or lesser possibilities for any group member to exercise mutual influence depending on group norms and the rule regime generally.

(VII). Rules for the Interface with the Environment

Production in relation to the larger social and material/ecological environment varies greatly among groups. In general, there are external relations to other groups, networks, organization, e.g. a work group connects to a professional network, network of suppliers and state agencies, among others.

(a) Boundary maintenance, a key group function, is produced through the effective application of recruitment and involvement rules and through particular strategies of procuring materials and technologies in the environment.

(b) Groups function in networks and larger organizations as nodes in clusters (Fine, 2010). These segments of networks in which weak ties (secondary ties) are replaced with a set of strong and intimate ties (primary), at least in some cases. Not all functioning small groups can be characterized by primary ties, as indicated elsewhere in this article.

(c) Powerful groups develop rules and strategies for controlling the environment to be compatible and supportive, enabling group sustainability and evolution. Indeed, given sufficient power, the group changes the environment so it fits, or responds as it wants (Burns and Hall, 2012). The possession of such powers differs greatly among groups.

A group oriented to control or coercive exploitation of its environment would try to acquire or develop the capabilities for such actions – and recruit and involve appropriate members to play the necessary roles and also acquire the appropriate technologies and other resources for such purposes. This would contrast to a group that is oriented to isolating itself as much as possible from its social environment ("withdrawal"), requiring the development of appropriate strategies and capabilities.

(VIII). Rules for Changing Rules and Group Core Bases

Groups collectively adapt/transform their models, action repertoires, value complexes, judgment systems, technologies, and the agential base. A group draws on algorithms and heuristics to adapt and innovate producing new agential, rule regime, and resource bases as well as changing/controlling the environment, that is, group circumstances.

Groups provide "cultural arenas" for collective innovation and development, appropriating and interpreting of meanings and cultural objects (Fine, 2012: 318; that is, groups are settings for creation and production of groups discourses, reflections, and representations (in part, *collective consciousness)*

- For example, groups form for the purpose of transforming members' status (ethnic or other status enhancement)
- Gangs, cliques, clubs, or other voluntary organizations often have the *dual function of providing identity as well as status to members.* For example, wearing certain clothes, hats, shoes, hajib, tatooes; eating or not eating certain foods and beverages; participating in certain rituals and ceremonies; rejecting association (particularly ritualistic occasions) with members of other groups (again boundary maintenance)

The adaptation/innovation process may also be facilitated or blocked at the group level – in the latter case reflecting collective inertia, rigidity or ignorance. Groups vary greatly in their subjection to internal and/or external pressures to adapt or innovate and in their willingness or capacity to innovate (see (VI). *What motivates a group to be innovative or creative (prepared to make changes), on the one hand, or oriented to sticking close, conservatively, to the established social order with its routines and rituals, on the other hand.* For instance, norms of creativity and innovation are part and parcel of a research group's rule regime/culture, that is, they are institutionalized in the group – possibly in particular roles and sub-groups and their practices. Other groups, for instance, those oriented to producing standardized products (whether goods or services) or those oriented to having "fun and games" tend to acquire or develop other goals and norms, appropriate roles, and practices.

(a) There are internal value and governance mechanisms: in dynamic groups stressing learning, competition, the value of experimentation and innovation, on the one hand, versus those in static groups stressing stability and reproduction, adherence to routines and rituals, and minimization of competition and conflict.

(b) External processes may produce pressures, threats, pressures, hazardous events, shocks evoking under some conditions efforts at adaptation and innovation among most groups. The pressures may come, for instance, from natural catastrophes or from the actions or growing threats from established powerful agents or new powerful agents emerging in a group's context.

(IX). Technology and resource rules.

All groups operate with particular resources, materials as well as technologies. Their resource bases concern the particularities of resources essential to group functioning and performance. Also important are resources available for recruitment purposes, for example, to attract and socialize new members. For instance, a group set up as a science and technology group will not only entail recruitment of appropriate group participants but also appropriate materials and equipment essential to their task. A "street corner gang" interested in sports needs whatever equipment the sport entails and access to or ownership of essential places or built environment of performance. A predatory or defensive gang would need to possess or gain access to appropriate weapons.

In the past, land and slaves were particularly important as critical resources. In the contemporary world, highly developed technologies, specialized knowledge, and access to critical information are particularly strategic. In any case, groups must obtain necessary resources for group functioning and performance – whether this concerns material resources or

particular technologies, knowledge/expertise, or even legitimacy on the part of key agents in the environment:

■ Some groups may obtain the resources they require on the basis of property rights or authority over resources, i.e. rules of access to and use of critical group resources. Other sources of power including normative and coercive capabilities may play a critical role.

■ To obtain resources in the environment, groups typically have to deal with agents possessing or controlling access to some of these resources. These activities often entail dealing with external challenges and threats. In general, a group develops external governance strategies and functions for these purposes.

■ Collective resources belong to the group – possibly collected from group members or simply belong to the group or community (through legal ownership,tradition, exchange, coercion). There are group procedures for deciding how to deploy the resources, for instance, through collective direction (leadership), or collective decision-making, or application of group norms.

■ The group itself and its members (or particular members) are themselves key resources – for themselves and their productions including dealing with external agents.

(X). Time and place rules
Groups are distinguishable in terms of their rules about times and places for their activities. For example, the three "text" religions specify different days of worship: Friday (Muslims), Saturday (Jews), Sunday (Christians).

Spatial or domain rules define: Where? Where not? For example, can one set up a market agent in this place? Or initiate here a public debate group? Or is it a space reserved for religious practice. Many spaces are "zoned", defining the types of social and other activities such as economic activities which are permitted or forbidden. There may be spaces defined as multi-functional but where usually the functional activities are differentiated in time. For instance, is the time appropriate for the group to engage in a religious, market or other type of social activity. Time rules indicate when, when not? Or, more fuzzily, when maybe?

REFERENCES

Ahlberg, B.M. 1991 *Women, Sexuality and the Changing Social Order*. London/New
York: Gordon & Breach

Bales, Robert Freed. 1950. "Interaction Process Analysis." Cambridge, Mass .: Addison-
Wesley.

Baumgartner, T., T.R.Burns. and P. DeVille 2014 *The Shaping of Socio-Economic Systems: The
Application of the Theory of Actor-System Dynamics.* London: Routledge

Bennis, W. and P. W. Biederman, *Organizing Genius* Addison-Wesley, Reading, Mass., pp 63-
86)

Berger, J., B.P. Cohen, L. Snell, and M. Zelditch Jr. (Eds) 1962 *Types of Formalization in Small
Groups Research.* New York, N.Y.:Houghton-Mifflin

Berger, J., M.H. Fisek, R.Z. Norman, and M. Zelditch, Jr. (eds) 1977 *Status Characteristics and
Social Interaction: An Expectation-States Approach.* New York: Elsevier Pub. Co

Berger, J. and M. Zelditch, Jr. (eds) 1993 *Theoretical Research Programs: Studies in the Growth
of Theory*. Stanford, Ca. Stanford University Press.

Berger, J., B.P. Cohen, L. Snell, and M. Zelditch Jr. (Eds) 1962 *Types of Formalization in Small
Groups Research.* New York, N.Y.:Houghton-Mifflin

Buckley, W. 1967. *Sociology and modern systems theory*. Oxford, England: Prentice-Hall.

Buckley, W. 1998 Society - a complex adaptive system. London/New York: Gordon & Breach

Burke, P. (ed.) Contemporary Social Psychological Theories. Stanford, Ca.: Stanford University
Press. 2006

Burns, T. and G.M. Stalker 1961 *The Management of Innovation.* London: Tavistock
Publications

Burns, T. R. 2008 "Social Rule System Theory: An Overview." In: Helena Flam and Marcus
Carson (eds.) *Rule System Theory: Applications and Explorations***.** Peter Lang Publishers,
Frankfurt/Oxford/New York.

Burns, T. R. 2006a "System Theories" In: *The Encyclopedia of Sociology*, Blackwell Publishing,
Malden, Mass.

Burns, T. R. 2006b "The Sociology of Complex Systems: An Overview of Actor-System-
Dynamics." *World Futures: The Journal of General Evolution.* Vol. 62:411-460

Burns, T. R., T. Baumgartner and P. DeVille 1985 *Man, Decisions, Society*. London/New York:
Gordon and Breach.

Burns, T. R. and P. DeVille 2007 "Dynamic Systems Theory" In: Clifton D. Bryant and
D.L.Peck (eds),*The Handbook of 21st Century Sociology*. Thousand Oaks, California:
Sage Publications

Burns, T.R. and T. Dietz 1992 "Cultural Evolution: Social Rule Systems, Selection, and Human
Agency." *International Sociology*, Vol. 7: 259-283.

Burns, T. R. and T. Dietz 2001 "Revolution: An Evolutionary Perspective." *International
Sociology*, Vol. 16, No. 4: 531-555.

Burns, Tom R. and Helena Flam. 1987. *The Shaping of Social Organizations: Social Rule
System Theory and its Applications.* London, Sage Publications.

Burns, Tom R., and Anna Gomolinska. 1998. "Modelling Social Game Systems by Rule
Complexes." In: L. Polkowski and A. Skowron (eds), Rough Sets and Current Tends in

Computing. Berling/Heidelberg: Springer-V.

———. 2000a. "The Theory of Socially Embedded Games: The Mathematics of Social Relationships, Rule Complexes, and Action Modalities." *Quality and Quantity: International Journal of Methodology*, Vol. 34:379-406.

———.2000b. "Socio-cognitive Mechanisms of Belief Change: Applications of Generalized Game Theory to Belief Revision, Social Fabrication, and Self-Fulfilling Prophesy." *Cognitive Systems Research*, Vol. 2 (2): 39-54

Burns, Tom R., Anna Gomolinska and David L. Meeker "The Theory of Socially Embedded Games: Applications and Extensions to Open and Closed Games." *Quality and Quantity: International Journal of Methodology*, Vol. 35:1-32.

Burns, T. R. and P. Hall (eds) 2012 *The Meta-power Paradigm: Structuring Social Systems, Institutional Powers, and   Global Contexts.* Frankfurt/New York/Oxford: Peter Lang Publishers

Burns, T. R. and E. Roszkowska 2008 "The Social Theory of Choice: From Simon and Kahneman-Tversky to GGT Modelling Of Socially Contextualized Decision Situations.*" Optimum-Studia Ekonomiczne*, No. 3 (39).

--------------------------------2007 "Multi-Value Decision-Making And Games: The Perspective of Generalized Game Theory on Social and Psychological Complexity, Contradiction, and Equilibrium. In: Festskrift for Milan Zeleny. Amsterdam: IOS Press

--------------------------*2006 "Economic and Social Equilibria: The Perspective of GGT." Optimum-Studia Ekonomiczne Nr 3(31).*

Burns, T. R., J. Caldas, and E. Roszkowska 2005 "Generalized Game Theory's Contribution to Multi-agent Modelling: Addressing Problems of Social Regulatiion, Social Order, and Effective Security." In: Barbara Dunin-Keplicz, Andrzej Jankowski, Andrzej Skowron, and Marcin Szczuka (eds.), *Monitoring, Security and Rescue Techniques in Multiagent Systems*. Springer Verlag, Berlin/London.

Carson, M., T. R. Burns and Dolores Gomez Calvo. 2009 *Public Policy Paradgims: Theory and Practice of Paradigm Shifts in the European Union.* Peter Lang, Frankfurt/New York/Oxford, 2009

Corte, Ugo. 2013. "A Refinement of Collaborative Circles Theory: Resource Mobilization and Innovation in an Emerging Sport." *Social Psychology Quarterly* 76(1): 25-51.

Csikszentmihalyi, M. 1990 "Society, culture, and person: Creativity." In: R.J. Sternberg (ed.). Cambridge: Cambridge University Press

Dermott, T. 2005 *Perfect Soldiers: 9/11 Who they were, why they did it*. New York: HarperCollins

Durkheim, Émile. 1976. *The Elementary Forms of the Religious Life*. Allen and Unwin.

Edwards, B.and J.D. McCarthy. 2004. ''Resources and Social Movement Mobilization.'' Pp. 116–52 in The Blackwell Companion to Social Movements, edited by D. A. Snow, S. A. Soule, and H. Kriesi. Oxford, UK: Blackwell Publishers.

Fararo, T.J. 2001 *Social Action Systems: Foundation and Synthesis in Sociological Theory.* New York: Praeger

Farrell, Michael P. 2001. *Collaborative Circles: Friendship Dynamics and Creative Work*. University of Chicago Press.

Fine, Gary A.2012. Tiny Publics: A Theory of Group Action and Culture. Russell Sage Foundation Publications.

———2010. "The Sociology of the Local: Action and its Publics." Sociological

Theory 28(4):355-376.

-------- 2003 "On the Trail of Tribal Sociology." *Sociological Forum*. Vol 18 (4): 653-665.

———1979. "Small groups and culture creation: The Idioculture of Little
League Baseball Teams." American Sociological Review 733–745.

Flam, H. and M. Carson 2008 *Rule Systems Theory: Applications and Explorations.*
Frankfurt/New York/Oxford: Peter Lang.

Frodin, L. and U. Backman 1985 "Renal Transplantation in Uppsala." *Uppsala Journal of
Medical Sciences*. 90:149-156.

Gastil, J. 2010 *The Group in Society.* Thousand Oaks, Ca.: Sage

Geels, F. W. 2004 "From sectoral systems of innovation to socio-technical systems insights
about dynamics and change from sociology and institutional theory." *Research Policy,*
Vol. 33, pp. 897-920.

Goffman, E. 1974 *Frame Analysis: An Essay on the Organization of Experience.* Harper and
Row, publishers: London/New York.

Goffman, E. 1959 *In The Presentation of Self in Everyday Life*". London: Penguin

Gomolinska, A. 2002 "Derivability of Rules from Rule Complexes." *Logic and Logical
Philosophy,* Vol. 10:21-44

Gomolinska, A. 2008 "Rough Rule-Following by Social Agents." In: H. Flam and M. Carson
(eds.) *Rule Systems Theory: Applications and Explorations.* Frankfurt/New York/Oxford:
Peter Lang.

Granovetter, Mark S. The Strength of Weak Ties, *American Journal of Sociology*, Vol. 78, No. 6
(May, 1973), pp. 1360-1380.

Gross, N. 2009 "A Pragmatist Theory of Social Mechanisms." American Sociological Review,
Vol. 94:358-379.

Farrell, M. 2001 *Collaborative Circles.* Chicago: University of Chicago.

Fligstein, Neil, and Doug McAdam. 2012. *A Theory of Fields*. Oxford University Press.

Hannerz, U. 1992 *Cultural Complexity: Distributive View of Culture.* New York: Columbia
University Press.

Harrington, Brooke, and Gary A. Fine. 2000. "Opening the' Black Box': Small
Groups and Twenty-first-century Sociology." Social Psychology Quarterly 312–
323.

Heise, David R. 2013. Modeling Interactions in Small Groups, Social Psychology Quarterly
76(1):52-72.

Homans, G.C. 1950 *The Human Group* New York: Harcourt,Brace, and World

Lane, A. 2014 Review of L. Townshend's The Republic

Marx, Karl. [1847] 1982. *The Poverty of Philosophy*. New York: International Publishers.

McCarthy, John D. and Mayer N. Zald. 1977. ''Resource Mobilization and Social Movements: A
Partial Theory.'' *American Journal of Sociology* 82(6):1212–41.

McLaughlin, N. 2008 "Collaborative Circles and Their Discontents." *Sociologia* (2/2008)

Machado, N. 1998 *Using the Bodies of the Dead:Legal, Ethical, and Organizations Dimensions
of Organ Transplantation.* London:Ashgate.

Machado, N. and T. R. Burns 1998 "Complex Social Organization: Multiple Organizing Modes,
Structural Incongruence, and Mechanisms of Integration." *Public Administration: An
International Quarterly*, Vol. 76, No. 2, pp. 355-386.

Nikoloyuk, J.   T. R. Burns, and R. de Man 2010 "Sustainable Palm Oil: The Promise and
       Limitations of Partnered Governance" *Journal of Corporate Governance*, Vol. 10, No. 1,
       59-72.
Parsons, T. 1951. *The Social System.* New York: Free Press.
Parsons, T. R. Bales, E. Shils 1953 "Phase Movement in Relation to Motivation Symbol
       Formation and Role Structure." In Parsons, T., E. Shils, and N. Smelser (eds.)
       Working Papers in the Theory of Action. Glencoe, Ill. Free Press. pp. 163-269.
Perrow, C. 1967 "A Framework for the Comparative Analysis of Organizations". *American
       Sociological Review*. Vol. 32: 194-208
Puccio, G. J., & Cabra, J. F. (2010). "Organizational creativity: A systems perspective." In J.
       Kaufmann & R. J. Sternberg (Eds.), *The Cambridge Handbook of Creativi*ty (pp. 145-173).
       New York: Cambridge University Press.
Report 2004 Report of the U.S. National Commission on Terrorist Attacks upon the USA.
       Norton
Rogers, M. 1951 Review of G.C. Homans The Human Group *Sociometry*, Vol. 14, #1: 20-31.
Sawyer, K. 2008. *Group Genius: The Creative Power of Collaboration*. New York: Basic Books.
Sawyer, R. K. 2003. *Group Creativity: Music, Theater, Collaboration*. Psychology Press.
Sawyer, R. K. 2012. *Explaining Creativity: The Science of Human Innovation*. 2nd Edition.
Oxford: Oxford University Press.
Scott, W.R. 1981 *Organizations: Rational, Natural, and Open System.* Englewood Cliffs, N.J.:
       Prentice Hall.
Simmel, Georg. 1898. "The Persistence of Social Groups." *American Journal of Sociology*
       3(5):662–698.
Sterling, R. J. 1998 *Handbook of Creativity.* Cambridge: Cambridge University Press
Swedberg,R.   2005 "Can there be a Sociological Concept of Interest?" *Theory and Society*
       34:359-390
Szmatka, J. J. Skvoretz, John and J. Berger (eds.) 1997 *Status, Network, And Structure: Theory
       Development In Group Processes*.Stanford, Ca.: Stanford University Press
Von Neumann, J. 1966 Theory of Self-Reproducing Automata.(Ed., A. W. Burks). Urbana:
       University of Illinois Press.
Whyte, W. F. 1943 *Street Corner Society : Social Structure Of An Italian Slum*. Chicago:
       University of Chicago Press.
Zelditch, M. 2013 "Thirty Years Of Advances In Group Processes: A Review Essay."
       Advances in Group Processes, Volume 30, 1–19.