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Multiple Paradigm Research on Organisational Culture: An Introduction of Complexity Paradigm

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The author presents multiple paradigm research into the organisational culture of a birdwatching association, where he conducted his ethnographic research. On top of the functionalist, interpretive, radical structuralist and radical humanist paradigms as presented by Gibson Burrell and Gareth Morgan, he applies the fifth paradigm into the analysis of the organisation. The so-called complexity paradigm, which was formed in 1980's based on findings about complex systems and networks that emerged in natural and social sciences, summarizes all other paradigms, integrating them into a coherent unit. According to the author, the approach that exploits the benefits of each previously known paradigm illustrates comprehensively the complexity of organisational cultures, whereas the new paradigm upgrades our previous knowledge on organisations.

Keywords: anthropology, organisational culture, multiple paradigm research, complexity paradigm, ornithological association.

1 Introduction

Burrell and Morgan (1979) introduced four paradigms into the organisation theory: functionalist, interpretive, radical structuralist and radical humanist. They arranged these into a table presenting the approach based on order, regulation and stability, as opposed to the approach emphasizing radical change, at the same time comparing the subjective approach to the objective one. In the article I shall present each of their paradigms, and then explain how to review an organisation through these four "prisms" – just what Hassard (1991) achieved in the *multiple paradigm research*. Finally, I shall present the fifth, i.e. complexity paradigm, integrating the aforementioned paradigms into a coherent unit (Figure 1).

To explain how to implement multiple paradigm research including the complexity paradigm, I shall use the example of analysing the Bird Watching and Bird Study Association of Slovenia (DOPPS), where I carried out ethnographic research

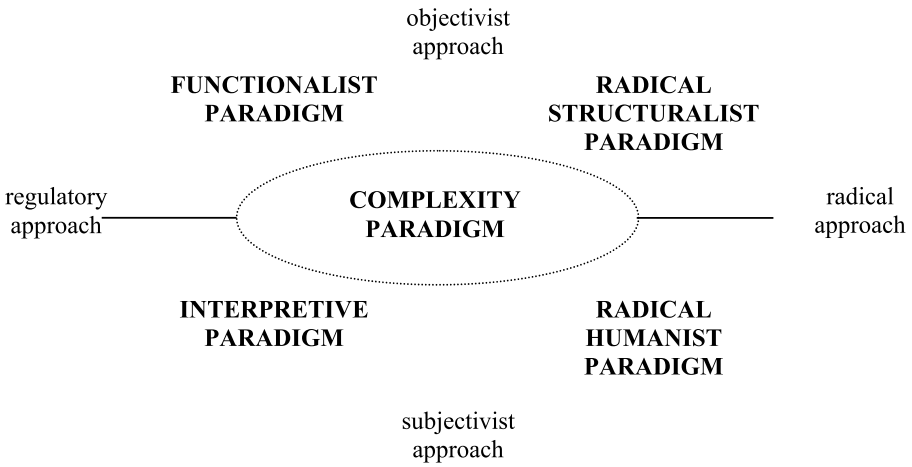

Figure 1: Five paradigms of organisational culture.

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between 2006 and 2008 within the European project *EuMon*.[1] In the course of research I conducted thirty semi-structured interviews and organised three focus groups (group debates on a topic). I also participated in various actions and bird surveys, thus executing participant observation.

I had chosen this association to perform my ethnographic research due to their relatively long history[2] as well as their familiarity in the Slovenian public, which had partly been achieved by the cooperation between DOPPS and a telecommunication company resulting in resounding advertising campaigns. However, the main cause for studying this association was its complex organisational structure intertwining voluntary efforts and professional work. As well as having approximately 1000 members, DOPPS also employs 19 people. What was once a purely voluntary organisation has thus since mid 1990's been growing into a (semi-)professional organisation. In my opinion, the complexity of this association can best be presented using multiple paradigm research, as this provides us with the most transparent image of its organisational culture.

2 Functionalist paradigm

The functionalist paradigm was predominant in 1970's and 1980's. As explained by Burrell and Morgan (1979: 26), it is based on positivism, its formation having been influenced by the sociologists August Comte, Herbert Spencer, Émile Durkheim and Vilfredo Pareto. Ouchi and Wilkins (1985: 460) also consider anthropologists as its founding authors, i.e. Alfred Radcliffe-Brown and Bronisław Malinowski, partly also Ruth Benedict and Margaret Mead, who all influenced Deal and Kennedy (1982), Peters and Waterman (1982), Ouchi (1993) and Schein (1987, 1992, 1994).

The theories that are considered to be contained in the paradigm emphasize order, stability and balance in organisations, usually being oriented pragmatically towards problem solving. Using this approach, researches try to discover how best to control people and what is the "right" way of knowing within an organisation. Such a representative is the central organisation theorist, Edgar Schein (1992), who introduced the organisational culture scheme that sets the so-called *basic assumptions* as the basis for cooperation among the members of an organisation (Figure 2).

According to Schein, the next, shallower layer of organisational culture are values and norms. Values are the principles that the organisation members believe to function well, whereas norms are unwritten rules explaining what is right and what not in various situations. Taking into account the shallowest layer of organisational culture, therefore the easiest to be approached by researchers, artefacts are material manifestations of basic assumptions. To reach the core of organisational culture, we first have to analyse the artefacts, i.e. the most visible cultural elements.

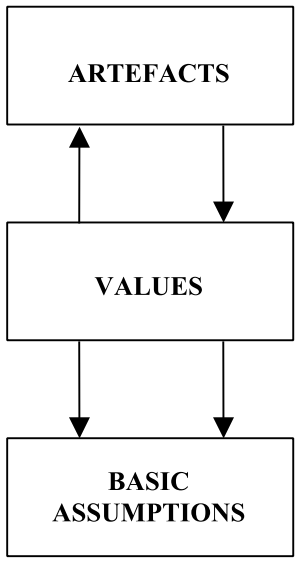

Figure 2: Threefold model of organisational culture (Schein 1992).

While performing ethnographic research at DOPPS, I used such approach to record artefacts and establish their meanings (Table 1). It was clear that the association emphasises birds in their publications and other products, thus stressing their mission: the protection of birds and their habitats. This was further highlighted by the ordinary attire of members (cf. Pratt and Rafaeli, 1997), e.g. sports clothing for outdoor excursions, and some other artefacts, e.g. photographs and images of birds used by members to decorate their offices. The central value to be noticed in the organisation is egalitarianism or the emphasis on the "*spirit of the association*" as my interviewees would often refer to it. This value shows in mutual informal address among the members, in "equal" and modest office furnishing as well as the appearance of members at formal gatherings, where only few show in prestigious clothing, rather emphasizing in their formal speeches their commitment to the global community of the like-minded. Considering this it can be deducted for the basic assumptions of DOPPS organisational culture to be voluntarism and altruism, both based on the feeling of being connected with other members of the organisation as well as with birds and the nature (Podjed, 2008, 2011).

1 Full name of the project: *EU-Wide Monitoring Methods and Systems of Surveillance for Species and Habitats of Community Interest.* Acronym: EuMon. Financing: EU Seventh Framework Programme. Head of project: Dr Klaus Henle, UFZ Leipzig-Halle, Germany. Project webpage: http://eumon.ckff.si/.

2 DOPPS was formed three decades ago, which is a long period as compared to other Slovenian nature monitoring associations. However, as compared with e.g. the British Royal Society for the Protection of Birds (RSPB), boasting a history of more than a hundred years and having more than a million members, it becomes clear that amateur ornithology in Slovenia is yet in its beginner stage.

Table 1: Organisational culture artefacts in DOPPS (categories and subcategories prepared according to Hatch, 2006).

Category	Subcategory	Examples
Objects	art, design, logo	- a bird in the association logo - photographs or drawings of birds in publications
	architecture, decoration, furnishing	- functional office furnishings (including the worn-out furniture) - photographs or drawings of birds on walls - "desktops" on computer screens featuring scenes from nature
	dress, appearance, costume, uniform	- sports clothing (also at workplace) - good and sturdy outdoor clothing - clothing often of "natural" colours (green, khaki, brown, grey, sand, light blue)
	products, equipment, tools	- quality binoculars and telescopes (Swarovski, Leica, Carl Zeiss etc.) - field notebooks for bird surveying
	displays of posters, photos, memorabilia, cartoons	- the premises of DOPPS Office feature many posters and photographs (e.g. illustrations of completed and planned projects and activities) - photographs and drawings featuring scenes from nature
	signage	- a panel with the association logo at the entrance
Verbal expressions	jargon, names, nicknames	- members usually call each other by first names - some people have nicknames
	explanations, theories	- rationalism, positivism and evolutionism – "each event in nature makes sense and can be explained" (older members) - ecologism, holism and connectionism – "we are a part of nature and we are therefore responsible for it" (younger members)
	stories, myths, legends and their heroes and villains	- field stories (including individual acts of heroism) - "mythologizing" the charismatic founder of the association
	superstition, rumours	- little superstition (pragmatic, down-to-earth thinking) - spreading rumours through informal channels ("mouth-to-mouth")
	humour, jokes	- many jokes related to birds and nature - field anecdotes
	metaphors, proverbs, slogans	- slogans in cooperation with the main sponsor (e.g. Sharing the sky with birds, A day without birds is like a night without stars)
	speeches, rhetoric, oratory	- speeches present nature as the central value - emphasizing commitment to the global community of the like-minded
Activities	ceremonies, rituals, rites of passage	- field work (practical actions, surveys etc.) as rites of passage - youth ornithological camps as rites of passage - annual assembly as the core formal ceremony
	meetings, leisure, parties	- weekly meetings of the professional team (DOPPS Office) - regular meetings of members of association regional branches - meetings of the whole association (e.g. annual assembly) - annual informal meeting - international meetings of BirdLife International partners
	communication patterns	- informal address - informal discussions - democratic exchange of views
	traditions, customs, social routines	- traditional excursions - common vegetarianism - protective attitude to animals and plants - firstly reserve towards novices, then profound friendship - simultaneous execution of various activities
	gestures	- frequent handshake
	play, recreation, games	- recreation as basic activity (surveys, actions etc.)
	rewards, punishments	- awards *Aviana* and *Golden Bee-eater* (best published work in ornithology)

It is notable that even DOPPS members identify with Schein's threefold model, seemingly without being aware of it. The manager of the association thus mentioned in an editorial of the journal published by the association how their organisational model could be compared to the structure of a tree being composed of "roots (basis), the trunk (contents) and the treetop (appearance)" (Medved, 2009: 3). However, can the culture really be presented by means of such a simple model and described by means of the functionalist approach? Sackmann (1991) declares the latter far from perfect, as there is no clear "instructions" for analysing artefacts, therefore she considers it better when analysing organisations only to focus on the conceptual ingredients of culture. Likewise, Wright (1994) warns that Schein struggles too much to adopt the positivist stance in the slippery area of elusive organisational culture. She therefore considers it more productive to interpret culture rather than "measure" it positivistically, to analyse the organisation's dynamics rather than "dissect" it statically.

3 Interpretive paradigm

The interpretive paradigm is based on the works by representatives of German idealist tradition of philosophy and sociology, i.e. Immanuel Kant, Wilhelm Dithley, Max Weber, Edmund Husserl and Alfred Schütz (Burrell and Morgan, 1979: 31–32), while the anthropologist to influence it most was Clifford Geertz (1973). Its main representatives seek to understand the world at the level of subjective experience (e.g. Alvesson, 1987; Alvesson and Berg, 1992; Czarniawska-Joerges, 1988, 1992; Pettigrew, 1979; Rosen, 2000; Smircich, 1983), whereas the social reality – if it does exist outside the individual – is hardly anything more than a network of assumptions and common intersubjective meanings (Burrell and Morgan, 1979: 30–31; see also Berger and Luckmann, 1988). Therefore the interpretivists place emphasis on symbols rather than dealing with tangible objects, i.e. artefacts.

To be found within this paradigm is one of the main contemporary organisation theoreticians, Mary Jo Hatch, who explains that organisations are based on common interpretive schemes, which show in the language and other symbolic constructs (Hatch, 1993, 2006). Such schemes and systems of meaning further enable for everyday activities to become self-evident (Smircich, 1983). The importance of symbols within the paradigm is most obvious in the so-called *dynamic model* of organisation culture, which Hatch (1993) created by upgrading the Schein model by adding the fourth, symbolic level, eventually integrating all the levels in a circular manner. Her model therefore ceases to be static, rather emphasizing the dynamics of the changing culture (Figure 3).[3]

How could then the symbols in DOPPS be exposed using this approach? The most obvious and noticeable symbolic meaning is that of birds appearing in association publications and other products, such as T-shirts, badges, labels etc. According to the findings of my ethnographic research, birds usually carry positive symbolic connotations, standing for freedom, love and happiness (Atwood Lawrence, 1997). Such symbolic meaning is particularly ascribed to some of the most "charismatic" birds, such as storks, swallows, owls etc., which makes birds in general, as it was explained to me by a prominent member of the association, *"winners"* in comparison to other, more "dull" taxonomic groups of animals. It is notable that some members of the association also identify with seemingly boring birds, such as the tawny Corn Crake, resembling the more familiar Quail. This seemingly unremarkable bird is ascribed particular value in conceptual notions of the members of the association based on the environmental projects implemented by the association – i.e. based on the efforts

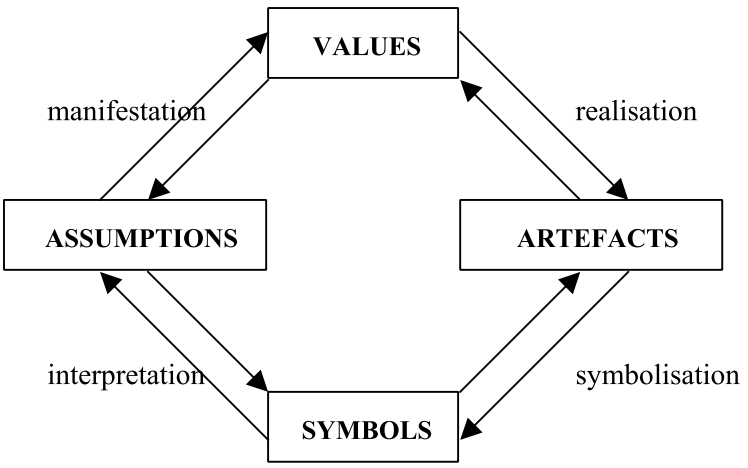

Figure 3: Dynamic model of organisational culture (Hatch, 1993).

3 Hatch also focused on the processes (manifestation, realisation, symbolisation and interpretation) that run between various levels of organisational culture.

that have been made to preserve corncrake and its habitats, as the number of birds had been found to decrease greatly due to developments in agriculture and pasture management (Božič et al., 2007). Its protection has been particularly intense since 2004, when project funds were acquired from the European Union. Since then, the pastures where Corn Crakes breed have been managed in several areas, numerous educational activities have been prepared and a small natural reserve featuring the so-called *Corn Crake natural trail* has been arranged. Corn Crake was thus made the DOPPS bird, which is used on covers of many publications. The artefact was thus transformed into a symbol of the association's view of the world and nature, particularly emphasizing the harmony of humans and other living creatures.

Other artefacts that I recorded during my research can also be "exposed" as symbols. The modest and functional furnishings of the premises as well as sturdy clothing illustrate the non-hierarchical nature of the organisation and the egalitarianism of its members who are (supposedly) equal, at the same time showing an altruist attitude towards nature and the environment. Yet even in the community of bird watchers, symbols of prestige can be found. However, it is not expensive four-wheel drives, which would defy the philosophy of harmony with nature. Envious glances are rather triggered by prestige brands of telescopes and binoculars.

During ethnographic research of organisational culture, the interpretive paradigm can also be applied to try and trace a hint of organisational culture in each symbol and set of concepts. While doing so, we can imagine metaphorically to be fitting the pieces of a broken hologram, as we try to see the whole picture in each artefact (cf. Morgan, 1986). But this approach soon makes us realise that there is always a piece of "hologram" missing, while the image of uniform culture – if indeed it does exist – is never perfectly clear.

4 Radical structuralist paradigm

As explained by Parker (2000), the smallest share of research in organisations has been made using the approach of radical structuralist paradigm[4], the formation of which was particularly influenced by Karl Marx, its development also having been affected by Friedrich Engels, Vladimir Ilich Lenin and Nikolai Bukharin, and later Louis Althusser. According to this paradigm, the organisation mainly transforms under the influence of the social context, its representatives stressing that radical change and conflict are "built" in the society (Burrell and Morgan, 1979: 24).

DOPPS can also be looked at from this viewpoint. In its early period, which lasted almost two decades, the association was marked by the informal and non-hierarchical cooperation of members. At the time the association recorded a great rise in the number of members; in mid 1980's there were around 250, and at the turn of the millennium almost a thousand and then the growth stopped. In late 1980's and in 1990', the organisational structure of DOPPS formalized and two branches formed in the organisation having distinct views of its mission. The group of young members emphasized environmental campaigns and professionalisation of activities, whereas older members supported preservation of "original" activities of DOPPS, i.e. bird watching and ringing as well as preservation of the voluntary approach.

The situation grew tenser until the shift in 1999, which was described by some members as the "*revolution*" that transformed the organisation. The main founder of DOPPS and charismatic informal leader was dismissed as the editor-in-chief of the association's journal, which resulted in his withdrawal from the association and cessation of any contact with the organisation. The changes that followed his leave were not at all surprising, as many events had indicated a possible break with the traditional values and manner of operation. Already in the early 1990's, DOPPS began approaching the international association of ornithological organisations BirdLife International, and in mid 1990's they acquired an important sponsor – a telecommunication company. Both novelties hinted at a new orientation towards environmentalism and more professionalized operation. Such changes can also be related to the transformation from socialism to capitalism, which influenced the voluntary ornithology (Bell et al., 2011). The new circumstances demanded a new way of acting and thinking as amateur bird watching and studying could not support the preservation and development of the organisation. It thus had to transform radically from a voluntary into a (semi-) professional organisation and move to a new level of organisational culture (Podjed and Muršič, 2008).

5 Radical humanist paradigm

Radical humanist or postmodern paradigm (Parker, 2000; see also Boje, 1991, 1995, 2008; Clegg, 1990), which was most affected by the central postmodernist theoreticians Michel Foucault, Jacques Derrida, Jean-François Lyotard and Jean Baudrillard, also explains conflicts in organisations as generative and not problematic as functionalists or interpretivists would say. According to Parker (2000), one of its main representatives in studying organisations, postmodern theories of organisations are actually "anti-organisational" as they emphasize internal divisions instead of looking for integrity and consensus, at the same time describing the organisational culture as a constant struggle for prevalence between different fractions and coalitions, all trying to define the common aims in their own way (see Batteau, 2000; Parker, 1995). Parker's approach particularly emphasizes the split of a single organisational culture into several sub-cultures, which are further

4 Burrell and Morgan (1979) state Beynon's (1973) and Clegg's (1975) monographs as representative works.

5 The terminology in the field is quite unclear. The notions amateur and volunteer are often interchanged, and so are the professional and expert (see Ellis and Waterton 2004, 2005; Podjed and Muršič 2008).

spread fractally into "sub-subcultures" and "sub-sub-subcultures" (cf. Strathern, 2008).

And how is DOPPS segregated? I first noticed the split between the professionals and volunteers or amateurs.[5] Those employed are often seen by others as "more equal", being paid for the job that some perform free of charge. The second split separates the experts or specialists from the beginners. Some members are extremely skilled in recognizing birds and in biology in general, whereas some don't know much about birds, but they like to spend time in nature and enjoy the company of like-minded. The only problem is that the experts and the beginners often have to cooperate, e.g. in surveys, which poses the question whether the surveyors with "better" knowledge can trust the beginners and the results of their work. The third is the generation gap and it was the differences between the two generations, i.e. the older one that formed the association and the younger one that joined later, that led to the aforementioned "revolution". In the years following the change, a new situation appeared in the association: the youngest members, i.e. the representatives of DOPPS third generation often appear as a homogeneous group fighting the principles of the current older or former younger generation. The fourth split is based on where the members come from, the most notable difference being the one between the centre and the periphery. In the focus group that I organised in one of the regional branches, the members for example complained about the association being centralised as all the information gathered in Ljubljana and only limited knowledge about the happenings at the association reached them. Yet one of the employees explained that the centre was also aware that the representatives of this branch considered "*stupid everything said or done in Ljubljana*."

It is obvious that the organisational culture in DOPPS is not uniform as representatives of functionalist or interpretive paradigm might assume, but split at several layers. Each member of the association is positioned into "subgroups" defined in relation to other "subgroups" that all try to prevail over the others based on their ideas about how the organisation should work. Such struggles are not necessarily counterproductive as they stimulate the organisation to transform and adapt to members' needs and environmental demands. Although the members seemingly pull each into their own direction, there are shifts going on in the organisation all the time, while conflicts prompt new ideas and test possibilities for further development of the organisation.

6 Complexity paradigm

It is my belief that apart from the aforementioned four paradigms as stated by Burrell and Morgan (1979), there is the fifth paradigm of organisational culture. It contains the features of all the paradigms mentioned and, being neither objectivist nor subjectivist it integrates them. From the viewpoint of radicalism or regularity it can be positioned neither to the left nor the right side of the table illustrating the layout or paradigms (Figure 1). The "entrance" of the fifth paradigm that I call the complexity paradigm into social sciences was first described explicitly by Urry (2003), as he wrote of the so-called "complexity turn". The paradigm doesn't (only) originate in sociology, anthropology, psychology, philosophy and economy like the other four, it is also based on findings in natural sciences. That is to say, it is grounded in the theories of chaos, complexity, complex adaptive systems, self-organisation, synergetics and autopoiesis (see e.g. Ashby, 1962; Haken, 1983, 1994; Kauffman, 1995; Maturana and Varela, 1998; Nicolis and Prigogine, 1977; Prigogine and Stengers, 1984; Waldrop, 1992), which flourished in 1980's and are largely based on system theory and cybernetics (see e.g. Bateson, 1987; Bertalanffy, 1968; Luhmann, 2001; Wiener, 1948). What is common to the researchers of complexity is their attempts in using their holistic, connectionist or ecological approach, however we call it, to establish a new perspective for understanding the systems, be it natural or social, and use this perspective to consider them not a sum of isolated objects but a system of mutually related phenomena (Capra, 1997). Thus the theories of complexity are not only analogies or metaphors that can be used in social sciences (Morgan, 1986), as they provide the conceptual framework for a different view of the world (Mitleton-Kelly, 2003).

The formation of a new paradigm was also influenced by *network analysis*, which was mostly designed by mathematicians. Its originators were Paul Erdős and Alfréd Rényi who studied the so-called *random graphs* (Erdős and Rényi, 1959), and their work was continued by Steven H. Strogatz and Duncan J. Watts, who particularly dealt with the *small world model* (Watts, 2004; Watts and Strogatz, 1998), as well as Albert-László Barabási and Réka Albert, who unveil the secrets of the *scale-free networks* (Albert, Jeong and Barabási, 2000; Barabási, 2003). When it comes to contemporary social scientists, the transition into the so-called *network society* was studied in much detail by Manuel Castells (1996) who describes the networks as dynamic open structures, whereas the importance of networks in social research was discussed earlier by many sociologists and anthropologists (Boissevain and Mitchell, 1973; Granovetter, 1973; Mitchell, 1969, 1974; Radcliffe-Brown, 1940; Wolfe, 1978).

What is the essence of the complexity paradigm? This question can be answered in a simplified way by explaining the etymology of the word complexity. It derives from the Latin verb *complecti*, which stands for knit, weave, or from the noun *complexus*, meaning a network or web (Capra, 2003: 236; Mitleton-Kelly, 2003: 26). The seemingly inexplicable behaviour in complex systems that exceeds the sum of individual component parts originates in mutual connections between elements and their connections to the environment. In case of social systems, the complexity is further influenced by the fact that people, as opposed to elementary particles studied by physicians and chemists, have free will, which means that they can use their actions to affect intentionally other individuals and the entire system. An individual can thus (co)decide how the system develops and transforms, and help weave new patterns of relationships between people (Mitleton-Kelly, 2003: 34). This is the reason why the so-called *butterfly effect* is so much more explicit in social systems as small changes can induce consequences of gigantic extent (Capra, 1997: 132–134).

Complex social systems cannot be studied as if being isolated from the environment, as they always remain open and intertwined rhisomatically with other systems (cf. Deleuze and Guattari, 1990). There are connection being made not only between individuals, they also intertwine the technology, symbols, conceptual systems etc. (Latour, 2005; Urry, 2003), therefore such systems can considered multi-layered and multi-dimensional networks of relations between people and other living creatures and objects. The dimensions and contents so intertwined are more than a sum of components, as the behaviour of the system transcends the ingredients that make it up (Urry, 2003: 13). The complexity perspective therefore exceeds reductionism and attempts at explaining the whole as the sum of its component parts. Therefore organisations cannot simply be "dismantled" into individuals and then analysed, but always considered units or organisations of "higher order" (cf. Maturana in Varela, 1998).

The dividing line between the system and the environment being blurred, the system creates and transforms the environment, at the same time transforming itself. Is therefore the society like "the invisible hand" (cf. Smith, 1991) that directs the lives and operations of individuals, something that doesn't exist, but only serves as a "virtual reality, a *cosa mentale*, a hypostasis, a fiction" (Latour, 2005: 163)? This is what Latour (2005) tries to persuade us, and likewise is claimed by Giddens (1979, 2003) who mentions *structuration,* which is supposed to exceed the dichotomy between agency and structure and between the micro and macro perspective, as well as Urry (2003), ensuring us there is no difference between the structure and the process, between stability and changes, between the system and its environment. There are other researchers claming the same (e.g. Byrne, 1998; Waldrop, 1992), having created in the past decades a new paradigm that exceeds the dividing line between social and natural sciences. This paradigm is increasingly useful and being used both in anthropology (see e.g. Cohen, 1995; Lansing, 2003, 2006; Mosko and Damon, 2005; cf. also Hannerz, 1992) as well as in organisation theory (see e.g. Anderson, 1999; Czarniawska-Joerges, 1992; Frank and Fahrbach, 1999; MacIntosh and MacLean, 1999; MacIntosh et al., 2006; Marion, 1999; Mitleton-Kelly, 2003; Morel and Ramanujam, 1999; Stacey, 1996; Styhre, 2002; also see Hatch, 2006: 330–332).

7 Organisation as a complex system

The starting point for my analysis of DOPPS from the perspective of complexity paradigm will be the ten features of complex systems according to Cilliers (1998: 2–7), which will be compared to my findings about the association ("the system") and its members ("elements"). I shall thus prove DOPPS to be a complex system and at the same time show how general features of such a system comply with general definitions that apply to both natural and social systems.

The first feature of complex systems is a great number of their component elements. If the elements are few, the system can be described (i.e. mathematically using the system of differential equations). However, if it has many elements, we cannot describe the system or predict its development. The association integrates around a thousand members, interrelated in various ways. Considering this, the system is complex and unpredictable, but not chaotic.

The second feature of such systems is dynamics. To construct a complex system, the elements have to cooperate to establish new configurations, which in turn changes the system. Similarly, the association members show dynamism in activities within the association, while they also participate in information flow and exchange as well as establishing new contacts. An individual with no connections and interactions, and no information link to the network turns into an insignificant factor in the system – i.e. fails to be a part of it.

The third feature is a high level of interactions as each element in the system affects several other elements. The level of interactions in the association is also high – each individual cooperates with several members – and growing over the years, which is partly due to the growing number of members, but particularly thanks to new media of communication, such as e-mail, webpages and easily accessible publications. Considering this the complexity of the system has been on the increase.

The fourth feature is nonlinearity, which depends on asymmetrical relations between elements. Those having more connections thus have a greater "influence" and greater "power" to change the system. This feature enables minor reasons to cause great consequence (the so-called *butterfly effect*). In the association, the relations among individuals are also asymmetrical as the "elements" connect among themselves in various ways, some being more influential than the others. Of key importance in case of changes are the most influential individuals (in the network theory vocabulary referred to as *nodes*) who can easily direct the activities of a network or a system thanks to their numerous connections.

The fifth feature of complex systems is short reach of interactions as information is mainly transferred among close ("neighbouring") elements, and only reaches the elements furthest away through numerous "mediators". At first sight this is not the case in social systems, such as the association, as an individual can also be influenced by a person over a great distance. However, in my opinion the spatial proximity can be replaced by the social or habitual proximity (cf. Podjed, 2010). Therefore in social complex systems "vicinity" does not stand for two people ("elements" in the system) being physically close, as they can be close only in the manner of thinking or based on past cooperation, thus influencing each other.

The sixth feature is the appearance of feedback loops transforming the system. Each activity can thus be strengthened by means of positive loops or weakened by negative ones. Likewise it is possible to observe the flow of information (e.g. rumours) in the association, which is transmitted among people and either strengthened or weakened before returning to the original "author", whom it reaches changed and reinterpreted.

The seventh feature is the openness of complex systems, which refers to their constant interaction with the environment. It is therefore difficult to set its boundaries, rather, they are arbitrary and defined by the observer, which actually makes the environment part of the system. In the case of the association it is also impossible to define who is inside the sys-

tem and who isn't. This is because the association cooperates with several other organisations and many of its members are simultaneously members of similar non-governmental organisations as well as institutions and companies. Furthermore, the organisation is part of a greater international organisation, i.e. the BirdLife International partnership. It is therefore impossible to define precisely where the organisation begins or ends.

The eighth feature is the operation of complex systems under the circumstances that are far from balanced. This comprises the "flow" of elements leaving the system and of new elements joining it – just like in a whirlpool that only retains its shape when water is flowing through it. Balance, stability and symmetry in this case mean that the system is no longer dynamic and therefore ceases to exist. I noticed something similar when analysing the organisation's history. The association was formed in late 1970's and has since retained its original form, activity and aims, with members "flowing" through as they joined or left various activities within the association, at the same time bringing new ideas into the organisation. From this perspective, the association has closed organisation as it retains its original "form" and mission, at the same time having an open structure, meaning that its "elements" interchange constantly (cf. Maturana and Varela, 1998).

The ninth feature of complex systems is being influenced by history. Thus events from the past "change" the present and the future of the system. According to Cilliers (1998), each system analysis that fails to consider the dimension of time is imperfect and only an "illustration" of the diachronic process. Similarly, we can only get to know and understand the association if we learn about its past (history), which has been co-created by its members. We thus learn that seemingly insignificant events from the past can transform the association radically.

The tenth feature of complex systems is the fact that its individual elements don't posses information on the entire system. If any element "knew" what was happening to all the other elements, it would have to contain the complexity of the whole system – which is naturally impossible. In case of social complex systems it often seems that some individuals ("elements") – such as leaders – know about all the activities within the organisations. Of course this is not the case, therefore an integral image of complexity of the association cannot be acquired from individuals (only), e.g. through interviews, but only as an integral insight.

8 Conclusion and discussion

I have showed in the article how organisational culture can be looked at from the perspective of different paradigms: functionalist, interpretive, radical structuralist, radical humanist and that of complexity. In this respect, the complexity paradigm functions as the binder for contrasting views, not denying other paradigms, but upgrading and explaining them. When contrasted to the functionalist paradigm, it functions like Einstein's to Newton's physics, as both can explain the same phenomena on different levels. The complexity paradigm also relies on empirical proofs and tries to explain how an organisation functions, yet it states further that happenings in organisations are not predictable, foreseeable or manageable, but rather dynamic, complex and mostly unpredictable. However, this does not mean that an individual – say the head of organisation – cannot direct the course of events through his action. Quite the contrary: active participation of any individual can influence the future of a complex dynamic system.

The complexity paradigm also employs the holism or integrity as advocated by the representatives of the interpretive paradigm. From this perspective, each member of organisation (and each artefact produced by the organisation) is an important component part of organisation, interpreting and transforming the whole. The organisation thus changes as well, and in turn the organisation changes the individual.

The radical changes of late 1990's can partly be explained using Hegelian and Marxist theories of conflicting approaches or views of the world (thesis and antithesis) causing the crucial break and the formation of a new social form (synthesis). However, from the perspective of complex systems we can particularly pay attention to the effect of positive feedback loops, which in the crucial moment overrule the "self-regulating" negative feedback loops (Capra, 1997: 56–64). Positive loops thus lead to radical changes or *bifurcations* and to a sudden emergence of new forms of order (Capra, 1997: 186). Such dialectical changes can also be looked at from the viewpoint of networks. If DOPPS is to be considered a complex network, in which some nodes are more networked (meaning more influential), it becomes clear why and how the transformation of 1999 occurred. It was then that the founder, i.e. the central node of the network and the informal leader, left the association in protest. His resignation provided an opportunity for a practically sudden establishment of new centres of power and new relations between members as well as new organisational culture.

The radical humanist or postmodern paradigm can also be replaced by the complexity paradigm. If an organisation is to be considered a dynamic complex network and its culture primarily a process rather than a state, internal struggles, oppositions, fractures, divides etc. become clearer. Particular parts of a multidimensional cultural system can also self-define, which enables the emergence of subcultures becoming further fractally divided into sub-subcultures and merging vertically into supercultures. Actually the advocates of the radical humanist paradigm also support the change of perspective from hierarchical organisations to more egalitarian, non-hierarchical networks saying that "organisational life is more indeterminate, more differentiated, more chaotic, than it is simple, systematic, monological, and hierarchical" (Boje, 1995: 1001).

The complexity paradigm provides an important advantage by rejecting the objectivity of the researcher, thus the importance of their participation is not relativised. According to the Cartesian paradigm, scientific descriptions are believed to be objective, thus independent from the observer and the cognitive process. However, the new paradigm explains that epistemology should be included in phenomena explicitly. Such consideration comprises the "shift from objective to 'epistemic' science; to a framework in which epistemology – 'the method of questioning' – becomes an integral part of scientific theories" (Capra, 1997: 40). On the one hand this means that the observer is part of the system he examines, thus influen-

cing through his actions the phenomena examined; but on the other hand the observer defines the object of his research, thus setting the boundaries of the system examined.

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