

METHODOLOGICAL BIASES.

INGLEHART'S WORLD VALUE SURVEY AND Q METHODOLOGY

$$\begin{aligned}
 \sigma^2 &= \frac{\sum (X - \mu)^2}{N} \\
 &= \frac{\sum (X^2 - 2\mu X + \mu^2)}{N} \\
 &= \frac{\sum X^2}{N} - \frac{2\mu \sum X}{N} + \frac{N\mu^2}{N} \\
 &= \frac{\sum X^2}{N} - 2\mu^2 + \mu^2 \\
 &= \frac{\sum X^2}{N} - \mu^2
 \end{aligned}$$

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Abstract

The study of human behavior has become central concern for social scientific studies, in particular to better understand and frame complex reality in different fields. This article aims to compare two methods to analyze, how people think, believe, and act in regards to a certain topic: Inglehart's World Value Survey (WVS) and Q Methodology (Q). Whilst WVS displays behavior proportions of a representative sample, Q looks for the differences in field of choice. Both attempt to reveal contemporary discourses, and both are using quantitative measures to do so, large n scale factor analysis in case of the WVS and the inverted bell curve in Q Methodology. We want to show Pros and Cons of these two methods, which have become so useful for social scientific research.

Introduction and Hypothesis

A methodological >bias< is something scientists always have to deal with. The problem of systematically tracking the subjectivity of people's behavior has been a fundamental concern of social scientists since the very beginning. Critiques arise from all sides always an approach is proposed. In this piece, biases of two methodologically similar approaches are to be compared in order to show their strengths and weaknesses: On the one hand the World Value Survey (WVS), the famous method as internationally established by Ronald Inglehart (1934-), and on the other hand Q methodology¹, a relatively little-known research method in social science.

Two aspects are to be considered in order to depict the point of view, on which this comparison bases: First, the distinction between sociology and political science, second, the assumption that no method is either 'good' or 'bad', or rather 'better' or 'worse' than the other.

In regards to the latter, one has to consider that generally all methodological approaches have their right to exist, which may give a certain tribute to the whole academic discourse, and base on certain assumptions, looking from a certain point of view. Consequentially, all judgments and critiques made in this paper don't propose to be generally applicable to these methods, but only in consideration of the undertaken question. Even the undertaken distinction between sociology and political science can be refused, which radically will change all considerations in regards to the

1 Considerations of Webler refer to etymological origins of the term >Q methodology<: According to Asah the 'Q' was selected since it follows the 'R' in the alphabet and symbolizes it's necessary to define perspectives before conducting a survey to measure the frequency of occurrence of perspectives in a population. Others state, that 'Q' is used to refer to what Stephenson called *quansal* units (QUANtification of SALiency). According to Brown, Stephenson applied ideas from quantum physics to the subjectivity research field. Therefore, since quansal units have parallels in measuring the potential of electronsy, consequentially, when "Q participants sort statements into categories, quansal units demarcate the categories. Statements that are sorted near the middle of the distribution have low saliency, while those located at the extremes are comparably more salient". (Webler et al. 2009: 7)

result. The question to answer then is, which other kind of differentiation between these close disciplines is to be made. In order to make any reasonable judgment, and to not lose the methodological focus of this work the first aspect will be taken for granted and not discussed on the large scale as it should be in order to consider different points of view adequately. At the core, this paper bases on the assumption of the necessity of the revival of pluralist themes as a recognition and acceptance of difference and multiplicity, „that existed *before* the post-war, liberal variant that is so often taken to be the whole of political pluralism.“ (Schlossberg 2002: 45) This >critical< pluralism which has emerged in the environmental debate and which been extended from environmental justice to the debate about global injustice and inequality patterns can and has to transgress the limits of environmental interdisciplinary debate.

Following, this argumentation seeks for the tribute and the weaknesses the two chosen methods can provide. Naming the weaknesses has to be taken into consideration when asking which method should or can be used to get, what kind of required answers to which certain question by accepting a bias that influences the answer to the given research question as little as possible.

Secondly, the distinction is taken as a question of focus. WVS has its origins in political science as a broad approach to measure behavior change on a global projection (Inglehart/Welzel 2005). Q methodology on the other hand has been developed and first applied in in psychology with reference to physical math of an inverted bell curve by Stephenson in 1935. Its introduction to other fields came along the emerging debate about environmental discourses in political science at the end of the 1980s.

Thus the review for sociological usage of either message depends on the methodological understanding of research focus in sociology. It is not strictly non-penetrable, but political science is much more focused on the mechanics of the state and the political systems whilst sociology on the other hand is much more focused on the well-being of societies (>social relations<). Usually, scientists of political science focus on a particular branch of the state, such as the presidency, legislature, or judiciary. Sociology on the opposite includes the state or political system as a variable of interest (>social organization<). Taking into account the nature of sociological focus as mainly the >social relations< and >social organization< the judgment of the applicability of the chosen methods is given under these considerations. „Defining sociology as the study of social relations emphasizes interaction, whereas the social organization definition emphasizes social structure. Interaction is viewed sociologically as occurring within a structure, however, and the structure is viewed as encompassing interaction. Therefore, the definitions differ primarily in emphasis rather than basic substance.“ (Abrahamson 1969: 10)

Furthermore, taking into account the classics of sociology, to which are to count Karl Marx, Max Weber and Émile Durkheim, shortly it is necessary to refer to the methodological basics of sociology as something which is to be considered in the validation of the two presented methods for sociological research. The complex Marxian methodological considerations will be spared, since, firstly, the logical coherence according to emphatic dialectic and scientific rigor cannot be proven from the means to the ends without giving answers to the unresolved contradictions (cf. Göhler 1980, Kaufmann 2003), for which, secondly, unfortunately is no place here. In accordance to Mathias Groß, Durkheim's guideline was to explain the social with the social. He calls this formula correctly >Durkheim's strained dictum< referring to the point that this short form is merely used in the list of content (Groß 2001: 40). In >Die Regeln der soziologischen Methode<, Durkheim writes more precisely: „Die bestimmende Ursache eines soziologischen Tatbestandes muß in den sozialen Phänomenen, die ihm zeitlich vorausgehen, und nicht in den Zuständen des individuellen Bewußtseins gesucht werden“. [The source of particular sociological facts is in social phenomena, which happened in advance, not in conditions of individual consciousness.] (1976: 193)

According to Max Weber, here is referred to the first characteristic of his celebrated doctrine of the ideal type. As Talcott Parsons wrote in >Weber's approach to social science and its methodology<, Weber formulated this ideal type „in terms of subjective categories – that is, in his own phrase, 'of the intended meaning' of an action to the actor.“ (Parsons 1950: 291) This *Verstehen* is the sociological part which goes beyond the only epistemological questions, but includes metaphysics, too. Understanding of >social organization< by considering the >social relation< of individuals (their constraints and their decisions) instead of seeking generalized ideal types, he formulated in his well-known concept of *Wertbeziehungen* [value of relations]. (Ibid: 292). Excluding the differing usage of *Verstehen* by Georg Simmel as well as further distinctions of >pure<, >general<, and >philosophical sociology<, it has to be considered that according to him „questions of significance and meaning of economic, political, etc., phenomena and processes (...) are questions of interpretation, which cannot be solved by empirical studies“ (Heberle 1950: 253) only, as is to be added. In reference to the debate about >The discovery of grounded theory< of Glaser and Strauss (1967) the inclusion of qualitative data collection, or rather elements of qualitative data collection, may be required in order to get a holistic picture of a social situation. On the other side, international correlation is not really traceable with clear qualitative approaches. As Girtler (2001) points out – also referring to Weber – that “eine >objektive< Behandlung der Kulturvorgänge in dem Sinne, daß die Reduktion des Empirischen auf Gesetze zu gelten hätte, sinnlos sei.” [an >objective< treatment – in the meaning of reduction to empirical validity – of cultural instances be

pointless.] (2001: 37) He stresses the usage of qualitative approaches in the field to *verstehen* human action (*Handeln*) rather than practicing >veranda sociology<. This polemic term emphasizes – as stated by the sociologist of crime Ned Polsky – that sociology is of little value “wenn sie sich nicht letztlich mit richtigen, lebendigen Menschen befaßt (...). Im Gegensatz dazu produzieren gerade die präzisen, genau definierten Beobachtungsmethoden eines Forschers leicht etwas, das mit der normalen Lebenssituation eines Probanden nichts mehr zu tun hat.” [if it doesn't deal with real, living beings (...). On the contrary, precisely defined methods of observation in particular result easily in something which has nothing to do with regular living conditions of the researched.] (Polsky 1973: 71) This perspective is shared by other famous sociologists such as René König (cf. 1972).

This cannot mean, that for improving the idea of an interpretative sociology by Max Weber, only qualitative approaches can be recommended, but the sociological focus of interpreting social action instead of only examining institutional behavior studies is one clear position in weighing the value of the two methods for the sociological discourse. Furthermore, clear qualitative approaches, such as >free participant observation< and >Ero-epic interviews<, bare problems of traceability and of less considering the value of science thoughts for sociological debate, theoretically but methodologically, too. Methodological limitations, as well as constricted theoretical observations will not lead to better comprehend the social by the social as Durkheim advised in the beginning. To be clear, the understanding of sociology or of what sociology is, can be, and should be in question, is questioned and should be discussed. Unfortunately, this paper does not leave space for considering all arguments the way they should be recognized. Finally, this paper wants to stress the importance of honesty in accordance to the initiative behavior of the researcher. The complexity of methodological biases in all methodologies makes it rather important to choose which bias is to be taken into account on the basis of methodological pluralism as a possible way-out of the limiting frames.

Beside the necessary choice which has to be made by each researcher on her own in regards to her specific research question and in recognition of the fact, that until contemporary times Q methodology is being adopted, but a “relatively little known form of research methodology within social science” (Barry/Proops 2000: 22), “even though it has been established for over 60 years” (Barry/Proops 1999: 338) and even “little remembered in psychology itself” either (Brown 2011).

The promotion of the acknowledgement of Q methodology as a reasonable tool for social scientists is one of the main goals of this piece. The study of Proops and Barry (1999) called >Seeking sustainability discourses with Q methodology< will serve as an example of applying Q

methodology.

Consequentially, a detailed examination of Inglehart's R factor analysis is avoided in favor of a more detailed description of the methodological differences of the two. Nevertheless, the strength of usability of WVS will be shown in a recent study by Welzel and Inglehart (2009a), >Political Culture, Mass Beliefs, and Value Change<. Since the way of WVS appliance is quite predetermining, this paper rather focuses on the results that have been proven than on the details of how results have been carried out.

We assume that this is not the crucial part for showing the biases of both Q methodology and the WVS.

Methodological considerations

Two studies serve for showing the differences between WVS and Q methodology. Q methodology is shown in detail, but general assumptions have been difficult to make since Q methodology is a general tool to study behavior, which is to be compiled specifically for the given research design.

WVS on the opposite works with pre-defined questions and collected data. Since the data are collected by various groups in many different countries, it is impossible to show methodological biases (if any) within the collection of data in fields generally. Therefore, a study by Inglehart and Welzel is chosen to show the appliance of WVS for a certain question. The provided results are of less importance for the bias question than the given assumptions and considerations. Thus, in this paper the application of a downloadable WVS data set and its application via i.e. SPSS is not described, but reference is given, where this information and a proper How To can be found. Rather, this paper asks for background assumptions and which theoretical understanding is taken into account for all data collected worldwide. This paper asks rather for the >why< than for the >how<, in particular considering the dominance of WVS studies in scientific publications and in comparison to the information value.

Therefore, it doesn't matter, that the two studies center on different topics, Inglehart's and Welzel's WVS on the relationship of emancipation value and democratization whilst Barry and Proops Q-methodology focuses on the question of how sustainability is understood in a certain organization.

Inglehart's World Value Survey

The genesis of the World Value Survey

Emerged in 1981, parting from the European Value Study (EVS), Ronald Inglehart's (1934-) World Value Survey (WVS) under the leadership of Jan Kerkhofs and Ruud de Moor became famous as well as recognized all over the world in regards to quantitative based behavior studies. The EVS applied surveys in ten West European societies, because of growing interest; it was replicated later on in 14 additional countries. These survey's results gave evidence that a predictable cultural change was taking place. A new wave of surveys was launched in order to monitor this change, with Ronald Inglehart coordinating the surveys outside of Western Europe. The important waves went from 1981 to 1990, with a wide range of key values. Probing more deeply into causes and consequences of the evaluated cultural changes, the research group began designing the 1995 wave and carrying out additional waves of research in 1995 and 2000 (collecting the data from 1995 to 1998). This wave was designed to giving special attention to obtaining better coverage of non-Western societies and analyzing the development of a democratic political culture in the observed democratization change in the East of Europe. The fifth wave of the values surveys was collected 2005-2006, the next one is planned to take place 2010-2012.

Sources for application of the World Value Survey (WVS)

Data from all four waves of the global² Values Surveys, carried out in 1981, 1990-1991, 1995-1996, 1999-2001 and 2005-2006, are available on the Internet³. The usefulness of these surveys has grown since they have come to provide more complete coverage of the world's societies, and since the time series that they cover has grown longer. The WVS methodology consists of the administration of detailed questionnaires in face-to-face interviews. The questionnaires from all five waves (including the incomplete 2005/2006 wave) can be downloaded on the WVS website⁴. As WVS is carried out by an international network of social scientists, with local funding for each survey, each participating group gets immediate access to the data from all representative national samples of the other participating societies.

The questionnaires from the most recent waves have consisted in about 250 questions. In each

2 As said, the 'first wave' was never called as such and wasn't 'global' but limited by focussing on Western-European countries.

3 http://www.worldvaluessurvey.org/index_surveys (22.08.2011)

4 <http://www.wvsevsdb.com/wvs/WVSDocs.jsp> (22.08.2011)

country, the questionnaires are given out to about 1000 to 3500 interviewees, with an average of about 1330 interviews per country and a worldwide total of about 92,000 interviews in the 4th wave. Nowadays, “more than 80 independent countries amounting to almost 85% of the world's population” are represented by the WVS (Dima/Dima 2009: 10).

Guided by a steering committee with representatives of all regions of the world, WVS has been applied in hundreds of publications in more than twenty languages. To only name the most current ones in English there is Inglehart/Welzel (2010), Alexander/Welzel (2011), Welzel/Inglehart (2009a), Welzel/Inglehart (2009b), Welzel/Inglehart (2009c), Welzel (2009a), and Welzel (2009b) among many others. A well-developed website provides, as the surveys are coordinated by an executive committee⁵ also instructions for further appliance. „For example, Russell Dalton's second edition of *Citizen Politics* includes a subset of these data in a computer-based instructional unit. The Micro Case corporation has also made extensive use of the WVS data in four textbooks with computer-based instructional units: *American Government* (5th ed.); in *Discovering Sociology*, published in 1999; in *Cultural Anthropology*, published in 1998; and in *Comparative Politics: An Introduction Using Explorit*, published in 2002.” (Inglehart 2011) This site further claims, and there is no reason to doubt, that over 50,000 students per year use WVS data.

As could be seen until now, a huge data set on the one hand and an impressive amount of publications base on the WVS. The clear quantitative approach of factor analysis gives WVS a strong standing in the social scientific community as well as for publication purposes. This fact bases especially on the cross-level linkages possible with the data set and the widespread availability of collected data. This has made it possible to easily examine interpretable results for analyzing values' and beliefs' impacts of mass publics on political and social life, comparisons between public values and economic growth, environmental pollution and mass attitudes toward environmental protection, or between political culture and democratic institutions. So, large n scale analysis of a worldwide survey requires predefined statements to be tested, which are translated in different languages and questioned, in an approximately similar time frame, to a representative sample of people in all countries in order to be comparable.

Theoretical assumptions of the >Inglehart-Index<

For methodological comparison purposes, the accomplishment of the underlying statements is to be understood. Beside of the particular study, the World Value Survey's worldview itself on

⁵ The website also provides very detailed information on the constitution and organisation of the World Values Survey. (cf. http://www.worldvaluessurvey.org/index_organization, 22.08.2011)

modernization and democracy will be outlined in the following. This is grounded on Inglehart's revision on modernization theory in three major aspects as described by Welzel and Inglehart (2005). When looking at the past debate about development, modernization, dependency, and world system theory are discussed by the authors as follows: They describe the modernization process in distinguished to the first two as development through either the capitalist path or the communist path. Since so called communist systems have been collapsed and lip servicing statements of nations depending to one or the other – or also the >nonaligned< – vision of modernization (or superpower) have in both cases finally created elites, that enrich themselves but doing little (or nothing) to modernize their countries, basic assumption⁶ of both theories are refused (Inglehart/Welzel 2005: 17). Dependency theory in particular lost theoretical influence due to the fact that import-substitution strategies have been less successful as assumed.

They criticize the linear approach of both theories, modernization and dependency theory, and focus in their further detailed critiques on the last (remaining) modernization theory challenging approach: World System Theory, concluding, that global division of labor has offered opportunities, enabling developing nations to transform themselves and change their positions in hierarchy of the global world market. In reference to the rapid development of East Asia and the subsequent democratization of Taiwan and South Korea, based on low-cost production for the world market, involvement of multinational corporations in less industrialized countries doesn't seem – according to them – to be harmful in the way world-system-theory proposed, which is why pressure for liberal democracy can no longer be resisted. “In fact” they state “foreign investment seems to stimulate growth (...) and to improve national welfare, benefiting the masses and not just the elites” (Ibid: 18).

Consequentially, Western capitalist version of modernization theory regained credibility, but requires revision in three major aspects, which are presented as (1) assumed tendency of socioeconomical development to bring predictable changes in people's worldviews, (2) consideration of modernization process not as a linear development but as a process of different phases which each brings distinctive changes (in the named worldviews) towards emancipation from authority, and (3) presumption that “emancipative nature of self-expression values makes democracy increasingly likely to emerge” (Ibid.: 5), which – as consequence – gives base to

6 The assumption of dependency theory has basically been the claim that disconnection of less industrialized countries from the world market would provide opportunity to develop. Modernization theory on the other hand assumed a country's “underdevelopment” as a direct result of the country's characteristics like traditional economical, psychological, and cultural traits (consequentially their institutions as superstructure too), where solution is given by substitution of these traditional traits for “modern values”. (Inglehart/Welzel 2005: 17)

difficulty to avoid democratization as a process at all.

Exemplified appliance of WVS

In the study about >Political Culture, Mass Beliefs, and Value Change< Inglehart and Welzel (2009a) used collected data of 340,000 respondents from 90 countries in 5 waves from 1981 to 2001. For emancipative values they evaluated four (4) beliefs basing on their factor loading in correlation with self-expression values ($r=.90$). As a result, the belief in >Gender equality over Patriarchy< (.76), >Tolerance over Conformity< (.72), >Autonomy over Authority< (.63), and >Participation over Security (Postmaterialist values)< (.54) were defined as relevant.

For each 'belief' Items have been stated, one agreement and three disagreements for the first. The agreement was that women can live by themselves, the disagreements were that men are better political leaders, education is more important for boys and that men have more rights to a job. The second factor loading based on the agreements that abortion can be justified, homosexuality is justified and divorce is justified. The belief in >Autonomy over Authority< based mainly on four choices, two chosen (autonomy, imagination) and two not chosen (obedience, faith). The latter (Postmaterialist values) was mostly influenced by the priorities, which have been the priority to giving people more say in government over order and stable prices, to giving people more say in local affairs over strong defense and fighting crime and finally to protecting freedom of speech over order and stable prices.

Consistently, they could show that the “strength of emancipative values” correlates positively with a “liberal understanding of democracy” (Inglehart/Welzel 2009: 132), that there is evidence for a “remarkably strong and statistically highly significant” relationship between the >Level of Democracy 2000-2004< and the >Strength of Emancipative Values 1995-2000< (Ibid: 135). Furthermore, as a trend they could show that the “more a population's emancipative values exceed the prior level of democracy, the more this level increases.” (Ibid: 139) In the chapter about >The Role of Religion< they state, in Table 9.2, that “the negative effect of being a Muslim on emancipation values shrinks as the action resources of the average person grows.” (Ibid: 142/143)

Concluding, they can demonstrate that in the process of democratization, cultural values matter a lot. “Emancipative mass beliefs appear to be the single most important cultural factor in helping to attain, consolidate, and deepen democracy.” As a general influence to all kind of systems, be it authoritarian or democratic, these values emerge “provided they [systems] experience socioeconomic modernization”, but mass pressure toward a democratic change becomes more likely when emancipative values arise. In democratic regimes, this mass pressure deepens the institutional

qualities and makes them more responsive. (Ibid: 143)

Q Methodology

Origins of Q Methodology and a brief overview

What has come to be referred to as Q methodology has been developed by the physicist⁷ and psychologist⁸ William Stephenson (1902 – 1989) and first published in his article >Technique of factor analysis< (1935). Later his well-referenced book >The study of behavior: Q technique and its methodology< is published in 1953. Charles Spearman, a pioneer of factor analysis, once referred to his protégé at University College London as the most creative statistician in psychology, but virtually from the moment of its inception, the broader considerations of Q as a methodology were destined to be controversial and to be shunned by most of academic psychology.

Like all research methods, Q methodology can be defined in different ways, be it epistemologically or under an ontological perspective. Basically, the aim is to analyze subjectivity in a statistically interpretable form (Barry/Proops 1999: 338/339). Q is categorized as “science of subjectivity” (Goldman 1999) or rather a “method for the scientific study of human behavior” (McKeown/Thomas 1988). The applicability is quite variable and will be presented in the famous case study by Barry and Proops. Suited to study specific social phenomena under controversial, contradictory and struggling conditions, Q tries to evaluate and display the variety of discourses about a certain discourse domain.

Rendering a qualitative research method with quantitative factorization Q is labeled a 'qualiquantological' method (Stenner/Rogers 2004). Thus, much of quantitative as well as qualitative general critiques may be applied to this method. “Nevertheless” as Previte et al. point out “it provides an opportunity to shift our focus from a particular individual narrative to an analysis of the range of viewpoints that is shared or favored by a particular group of participants”, consequentially giving a more 'macroscopic' complement to qualitative approaches. (Previte et al. 2007: 136)

Sources for application of Q Methodology

The basic text is still, as referred to in the beginning, Stephenson (1953), while a useful guideline is the McKeown and Thomas (1988). In general, the Internet provides a large range of information

7 Ph.D. 1926, University of Durham

8 Ph.D. 1929, University of London

support and stimuli regarding the operationalization of research questions. Q methodology instructions for application (a), discussion listing (b), and GPL software for all operating systems (c) is online available⁹.

There is to say, that Q methodology consists on a broad variability of application, so, depending on the domain of interest, differences can be found, as will be shown in exemplary case study in the next chapter. In avoidance of a long list of studies, just to show some methodological variability, a couple of applied studies have to be mentioned within the following step-by-step introduction to applying Q methodology. Usually Q methodology is applied in five key stages: Identifying the area of 'discourse', identifying a 'concourse', developing a 'Q sample', obtaining the 'Q sort' and, finally, identifying patterns across individuals. One may as well add a sixth stage such as >interpretation of 'Q sorts'<, also some of the key stages may be useful dividing into sections for certain research questions. (cf. Previte et al. 2007) As stated, the given presentation doesn't claim to consider all possible variability, but rather wants to show the general usefulness of Q methodology for sociological research purposes considering the above named multidisciplinary of methodological pluralism on the one hand, in distinction to dominant quantitative approaches in culture sociology such as the WVS.

Step-by-step application of Q Methodology

Main concern consists in identifying the specific discourses, which are to be investigated, and the relevant population. Explicitly, this does not mean starting to develop a hypothesis, but identifying the domain in which the researched discourse takes place. Discourses were, for example, attitudes towards food and nutrition, animal experimentation or sustainability. Consequentially, Q research technique bases on posteriori imposition of meaning by interpretation (Brown 1980: 54) and rather expresses a discourse environment than testing of participant.

In case of the given study, this has been the attitude towards the environment by members of several Local Employment and Trading Systems (LETS) groups. Placed in the field of >ecological economics<, this was developed by Barry and Proops in the technical literature (O'Hara 1996) with an exploration of the role of discourse ethics in environmental policy-making and environmental evaluation. Furthermore, they have used the classification of environmental discourses as outlined in the literature by John Dryzek (1997).

9 (a) <http://qmethod.org/howto>, <http://www.lrz.de/~schmolck/qmethod/webq/webqdoc.htm>; (b) QMETHOD@LISTSERV.KENT.EDU; (c) <http://www.lrz.de/~schmolck/qmethod/#PQMethod>, http://www.psychnet-uk.com/experimental_design/software_packages.htm.

Table 1: Dryzek's classification of environmental discourses

	Reformist	Radical
Prosaic	Problem Solving	Survivalism
Imaginative	Sustainability	Green Radicalism

(Dryzek 1997: 14)

The second step is to come from a very abstract 'discourse' to a 'concourse'. What are the subjects of struggle? What is the range of issues relevant to the identified domain? Interview techniques (Kitzinger 1999) as well as are common, as well either naturalistic or ready-made texts (McKeown/Thomas 1988), often in combination with literature, media reports (Dell/Korotana 2000), photographs (Swaffield/Fairweather 2000), but even unusual stimuli such as a set of bottled fragrances (Stephenson 1953).

Barry and Proops chose structured interviews which is a typical approach in political science.

The third stage is the development of the 'Q sample' or 'Q statement set'. Usually, the 'Q set' of statements, which is, in a broader sense, representative for the opinion domain of the 'concourse', is set up during the 'concourse' development. According to Previte et al. this process “assists researchers in refining and setting the research question”. (2007: 137) After the third step, the research question must be finally defined in order to commence the data collection. The 'Q sample' is of towering importance during the process since it further acts as >condition of instruction< for the participants, giving them the possibility to add individual experiences to their responses. According to Rogers, the triggered 'concourse' set is usually reduced by two-thirds. (1995: 185) The compass of a Q sample is typically between 30 to 60 statements, constrained by time and practicability. Piloting is recommended in order to ensure the essence of opinions or themes discovered and sample duplication, under- or over-sampling is avoided.

Some Q sample design techniques are discussed in literature to come to a logic reduction of data. Some include more qualitative elements, named as 'unstructured', which may, according to McKeown and Thomas, reduce the risk of misunderstandings and misinterpretation (1988), in order to identify themes in which the statements can be categorized and balanced (e.g. the study about national forest management cf. Steelman/Maguire 1999). In >Seeking sustainability discourses with Q methodology< Barry and Proops preferred the structured way, following Dryzek and Berejikian (1993) “in employing a 4 x 4, 16-cell 'concourse matrix' to sample the available statements.” (Barry/Proops 1999: 340) Using the following table, they filtered the statements to a Q sample of

thirty-six (36).

Table 2: The concourse matrix

	Ontology	Agency	Motivation	Natural/unnatural relationship
Definitive				
Designative				
Evaluative				
Advocative				

(Dryzek/Berejikian 1993: 52)

In the fourth step, the 'Q sort' is the main process of data collection. During this process, subjects model "his or her point of view by rank-ordering Q-sample stimuli along a continuum defined by a condition of instruction." (McKeown/Thomas 1988: 30) In the middle one finds the '0', while 'distribution marks' are spread out to the left (disagree with most strongly) and right (agree with most strongly). Typical Q studies use an 11 or 13 point scale. (Previte et al. 2007: 139) Depending on the amount of statements in the Q set, this may encompass from -6 to +6 (Ibid: 138), -5 to +5 as recommended by McKeown and Thomas (1988: 31) or -4 to +4 in the graphic (Barry/Proops 1999: 341).

This scale score (or distribution marks) includes a further restriction: The number of statements. The total number of statements is defined by the 'Q set', but differentiated by the Q sort ranking. Centering a high amount of statements in the middle (position '0') and close by (-/+1; -/+2), usually, the 'extreme positions' are limited by two (2) or three (3) statements. This isn't necessarily understood as a ranking from positive to negative, but rather as a ranking within the statements, such as >I like rather this than that<. Therefore, the determination of a certain number of statements does not essentially force the participant to show his absolute agreements and disagreements with certain statements, but within the given frame they have to choose which statement of all given statements they rather or rather not agree with.

Another focus is the required number of 'Q sorters'. Since stressing individual subjectivity, large sample sizes aren't relevant and the Q sorting process has more characteristics of a qualitative research than of a quantitative one. As Skinner puts it, there is more information to study one subject for 1,000 hours than 1,000 subjects for one hour (1969: 112). The selection finally bases on pragmatic as well as theoretical considerations. Sorters may be theoretically selected according to

their relevance to the goals of the study, such as membership to an organization like LETS (cf. Barry/Proops 1999), or pragmatically if “anyone will suffice” (McKeown/Thomas 1988: 36). A small number of 'sorters' is not of disadvantage, “especially if they seem likely to express a particularly interesting or pivotal viewpoint”. (Watts/Stenner 2005: 79) Statistically meaningful results can be generated by as few as 12 participants (Barry/Proops 1999: 344). As Previte states, in the study of Goldman and Emke only eight (8) individuals have been used, but more common are studies with 30 to 40 Q sorters. (Previte et al. 2007: 139)

In the >sustainability< study a scale score with totally 36 statements was given to 25 Q sorters:

Table 3: Scale scores and number of statements

Scale score	-4	-3	-2	-1	0	+1	+2	+3	+4
No. of statements	2	3	4	5	8	5	4	3	2

(Barry/Proops 1999: 341)

After that, the statistical analysis takes place at the fifth stage, in order to capture the quintessence of different individual's sorts. Usually, this is achieved by factor means of analyzed patterns across individuals measuring the most different, distinguishing statements. Thus, individuals which have sorted the statements in a similar way will consequentially most likely share a similar discourse position. As stated, Q methods create ideal types which can be grouped according to position and then assigned to the individual. Q researches can draw a distinct picture for each factor array. Even free sources for different operating systems and distributions are provided at the beginning of this chapter, and may as well be used. Brown (1980) recommends, that Q methodological scientists run the collected statistical data from a seven-factor to a two-factor solution before accepting a final solution. This process already assists the (in some studies mentioned) sixth stage, which consists in verbally interpreting “the social discourses uncovered by the statistical analysis.” (Barry/Proops 1999: 339) Data analysis is carried out with the inter-correlation of the N Q sorts¹⁰ as variables and >factor analysis< of an $N \times N$ correlation matrix. Resulting factors represent different viewpoints, thus, the association of a single participant is indicated by their preferences for that factor, are given by the correlation result of the factor analyzed answers to different statements. Finally, the final step consists in the calculation of factor scores, whereby each statement is scored for each factor.

Barry and Proops examination based upon the usage of the PCQ software package to enter each Q sort in the study as data. PCQ then correlates each Q sort with every other Q sort. A factor analysis

¹⁰ Accordingly, persons, not traits or Q sample items, are correlated.

is made by the centroid procedure, and the resulting factor analysis is rotated to a >simple structure< via >varimax rotation< for extracting those factors significant¹¹ by the protocols of Q methodology. These factors are re-expressed “as the 'best estimate' of the Q sorts that represents them.” (Barry/Proops 1999: 341) Consequentially, each factor is represented in a 'simple structure' of Q sort or by 'ideal types', which are analyzed by those Q sorts which are closed to the listed ideal. As they state, the “four factors extracted from this Q Sort account for 55 per cent of the variance.” (Barry/Proops 2000: 67) The procedure results in the following table of statements with scores on each of the four extracted discourses:

Table 4: Normalized Factor Scores

Statement	A	B	C	D
1 I try to be 'green' in the things I buy	2	1	2	-1
2 I would not describe myself politically as green	0	2	-3	1
3 LETS should aim to create 'sustainable livelihoods'	2	-1	0	2
4 LETS is a new type of economy in which living sustainably is a key aspect	2	-1	1	0
5 We need to overcome the distinction between 'work' and 'leisure' if we are to create a more balanced, humane and sensible economy -1 0 +3 +4	-1	0	3	4
6 The root of the ecological crisis is greed and therefore money	0	4	3	0
7 The problem in our society is that we waste resources just because people can afford to do so	1	1	0	-1
8 I am not very concerned about the environment	-4	-2	-4	-2
9 Multinationals are not a grave threat to an environmentally sustainable society	-3	-4	-4	-3
10 I would not be willing to pay an extra penny in tax to pay for environmental improvements	-4	-2	-2	1
11 Development has gone too far in the UK	1	1	0	0
12 Cars are the biggest cause of environmental and health problems	-1	1	1	0
13 I do not recycle as much as I should	0	0	-2	3
14 Our society is profligate and consumer-orientated/consumption-driven	3	3	3	2
15 I do not see LETS as a way of putting green ideas into practice	-2	2	-2	-1
16 The majority of people on LETS are ecologically minded	-1	-1	-1	-2
17 In the country you are more aware of how dependent we are on the natural world	0	0	-1	1
18 The world can support a lot more people than it does at present	1	0	-1	-3
19 People need not feel more concerned about global environmental issues as these are not under their control	-3	-3	-3	-2
20 There are a lot of environmental cover-ups	0	0	2	1
21 People are taking a short-term view: they're not thinking about the long-term effects of what they're doing	2	3	1	2
22 You can't look at one part of the planet, because all the parts interact	4	-1	1	0
23 It's not necessarily in the nature of humans to want more and more	1	0	0	-3
24 People should take things into their own hands, like at the Newbury by-pass	1	-3	2	0
25 LETS have no environmental benefits	-2	0	-3	-4
26 The cause of the environmental crisis is big business in all its forms	0	4	4	-4
27 The government should take responsibility for legislating on environmental issues a great deal more than it does	3	3	4	4
28 It's barbaric to breed animals to eat	-1	1	0	-1
29 I see technology as progress	-2	-4	-1	3
30 In the future people are going to have to lower their material standards of living due to resource shortages and other environmental pressures	4	0	0	2
31 The damage we are doing to the planet is beginning to come to the fore in public awareness	0	-2	1	3
32 We all have to take responsibility for environmental problems	3	2	2	1
33 The environmental benefits of LETS are important to me	-1	-2	0	0
34 I've not been made more aware of environmental issues since joining LETS	-2	2	0	0
35 I believe most future environmental problems will be solved by technology	-3	-3	-2	-1
36 I think there is a trade-off between unemployment and environmental quality	0	-1	-1	-2

Source: Barry/Proops 2000: 65-66

In the environmental part of the study, four discourses could be labeled and interpreted by the authors as outlined in the following table.

11 Significance can be measured statistically by implying the eigenvalue criterion. Factors with an eigenvalue greater than 1.00 are then considered as significant.

Table 5

Discourse	Label	Agreement	Disagreement
Discourse A	Techno-skeptical, non-green holism	14, 22, 27, 30, 32	8, 9, 10, 19, 35
Discourse B	Anti-capitalist, techno-skepticism, non-green ecologism	6, 14, 21, 26, 27	9, 19, 24, 29, 35
Discourse C	Political ecologism	5, 6, 14, 26, 27	2, 8, 9, 19, 25
Discourse D	Pro-technologism, acquisitiveness	13, 27, 29, 31	9, 18, 23, 25, 26

Source: Barry/Proops 1999: 343/344

Shortly, the interpretation of the research shall be carried out.

Discourse A displays a strong concern about the environment combined with an assumed lowering of material standard of living (SOL). Even without any strong political identification as 'green', government's statutory responsibility for the environmental problem as well as its neglect is recognized. Most of all, technology won't resolve the environmental problem in the future and therefore is not seen as progress. LETS have both direct and indirect¹² environmental benefits.

Discourse B emphasizes business and the current economic system as the causes of the ecological crisis. Like Discourse A, but even more extreme, the discourse demonstrates strong disagreement with technological optimism, but expressly disagrees with political activism in form of direct action. Barry and Proops guess that this account probably sees the role of government as keeping big business in ecological check. LETS is not seen as important or a way to put green ideas into praxis.

Discourse C is significant for its anti-capitalist, anti-multinational attitude, such as Discourse B, with a strong feeling and claim for government's responsibility in the environmental question, as stated by Discourse D. Apparently, a politically 'green', in combination with less anti-technological viewpoint than Discourse A and B, this discourse emphasizes the need to create a humane and balanced economy by overcoming the distinction between 'work' and 'leisure' as well as prompting that people should take things into their own hands. Environmental benefits of LETS are stressed.

Last but not least, Discourse D stresses, like Discourse C, the importance of overcoming the

¹² in terms of educating people

distinction between 'work' and 'leisure' and that government should take on responsibility. Unlike the other discourses, this one agrees with the statement that technology is progress, but at the same time, this account does not believe that environmental problems in the future will be solved by technology. Also well it strongly disagrees with the statement that the environmental crisis is caused by big business. Barry and Proops interpret these points of view by human beings as naturally acquisitive in the meaning of leaving achievement of environmental improvements to individual actions.

Conclusion

Benefits and cost of Q methodology have been mentioned and will be further discussed in the final comparative conclusion. As a methodological result of this study, the vital aspect of how some 'public', be it urban or rural, male or female, rich or poor, views environmental issues and policies, in order to help better implementing environmental policies. Their results are rather related to the consequences for policy making given by the information panel provided by Q methodology. According to Barry and Proops, this consists in two ways, first “it would identify for policy makers the ways environmental issues are perceived by various groups, allowing the identification of common issues or perspectives in the population” and second, “it would become apparent if different groups in society had markedly different perspectives on certain environmental concerns”, which would suggest what kind of policies are more likely to receive support. (Barry/Proops 1999: 344)

Q Methodology vs. World Value Survey

“The World Values Survey is a worldwide investigation of sociocultural and political change.” (Inglehart 2011) Thus, studies of certain groups or organizations, as in the >Seeking sustainability discourses< study of Barry/Proops', haven't been undertaken by WVS researchers, even if the WVS included some questions in the index and was able to show in its representative studies some reasonable results in researching opposing behavior attitude. Truly, the always accompanying influence on the WVS by Inglehart's >The Silent Revolution< (1977) hypothesis of a major intergenerational value shift of population's cultural values in industrial (Western) societies towards Postmaterialism, began with the first >wave<¹³. Evaluated questions for the data set have not considered all possible discourses in the future.

13 This is how the repeating international evaluations of the data set have been called after the first, which have been: WVS 1981-1984, WVS 1990-1994, WVS 1995-1998, WVS 2000-2004 and WVS 2005-2009 data.

Therefore, the first bias of the Inglehart Index is the kind of static and inflexible applicability of the survey. The advantage of a huge amount of data collected over a period of about three decades is its weakness at the same time. The data are valuable in the way they have been assembled, the way the questions have been classified in advance and, thus, the way the data have been collected. In response to that fact, the question sample was altered in order to suit better for contemporary questions. A further weakness emerges, as another result of this fact, from the static institutional structure, which eliminates the possibility of data collection by people of their own¹⁴.

Another bias may lie in the *intrinsic* assumptions of the WVS. Questions in the questionnaire assume a certain understanding of different things, such as >emancipation<, >modernization<, or most important >democracy<. Even more when translated to other languages, the consideration about what people comprehend by using a certain term may vary strongly and influence results. To give an example for that bias, a qualitative research presentation on a workshop at La Trobe University in 2007 outlined, that in the language of the researched Aboriginal tribe the word we would translate as 'poor' stands for someone with no friends. Therefore, in this case, they would probably answer, that they agree with the statement that a richer society would be desirable, but this would not include (in their opinion) any agreement with a >modernized< society.

Even if the same thoughts about the same thing can be considered, which is unlikely, even within science, definitions is not beyond dispute. Taking the given recent study of Welzel and Inglehart (2009a) as an example, one can ask inasmuch Gender equality over Patriarchy, Tolerance over Conformity, Autonomy over Authority and Participation over Security significant for emancipation values. The given assumption of values (emancipation, democracy, modernization etc. pp.) by the authors and data collectors is understood as >occidental rationalism<. As Weber states rightly about the different areas of life, “each one of these areas may be 'rationalized' according to very different ultimate viewpoints and directions, and what is 'rational' from one point of view may well be 'irrational' from another. Hence rationalization of the most varied character has existed in various areas of life ('Lebensgebiete') and in all areas of culture ('Kulturkreise'). To characterize their cultural-historical differences it is necessary to know what sphere are rationalized and in what direction. This then depends first of all on recognizing the particular character ('Eigenart') of occidental rationalism – and within this of modern occidental rationalism – and of explaining how it came to existence ('in ihrer Entstehung erklären').” (Weber in a letter to his mother (24 January

14 Thus it has to be considered the collection of data on a large scale, which makes any kind of direct participation of single researches, or researches with relatively small financial capacity or without support by institutional bodies with that capacity impossible or unlikely.

1886)¹⁵; in: Whimster (2007): 215) Inglehart and Welzel do not even consider other concepts for these terms as ends of a culturally different rationality.

As Whimster carries on, Weber's >Introduction< to the >Economic Ethics of the World Religions< outlines as a second (2.) point the methodical attainment “of a defined and given practical end by means of ever more precise calculation of the necessary means. (...) Each of the world religions achieves high levels of rationalization, and so the determination of life conducts. There is, then, no priority given to western forms of rationalism, which is characterized by the means-end calculativity of point 2 above.” (Dilthey, in: Whimster (2007): 215)

Inglehart and Welzel do not only favor the Western rationality for determining the questioned notions, but also use their 'Western' assumptions to interpret the factor analyzed data. The above named 'negative effect of being a Muslim' is a result of both, the assumption, that the Western understanding of democracy, modernization and emancipation (among others) is an absolute variable, and that any, for example Muslim but there may be Buddhist or Indigenous, idea of democracy, emancipation, or modernization differing from the 'occidental rationalism', has a 'negative effect'.

As one can see, this methodological bias of WVS produces certain results, which prove the given hypothesis of Inglehart and Welzel under the condition of a Western understanding of the terms too.¹⁶ The 'objective' approach of a clear data based research seems to have a strong subjective point of view in both, data collection and data interpretation.

Looking for the introduction of terminological considerations by Welzel and Inglehart, this subjectivity can be named in order to show evidence for the above named general methodological bias within the WSV research. The term 'democracy' is introduced, but not properly discussed. On the contrary, a certain definition is uncritically assumed at the beginning of their work. Their reference to Aristotle to embody the democracy 'concept' (Welzel/Inglehart 2009a: 127) is difficult, since democracy in his understanding wasn't something achievable but avoidable. In Aristotle's later writings, he differentiated by favoring a mixed form of democracy and oligarchy. Neither the Aristotle concept is presented nor discussed, but by referring to him they show their own understanding of democracy as Western centered and based on ancient Greek democratic considerations. Furthermore, what *intrinsically* is understood, when asking in the questionnaire for 'democracy' whilst the enquirer ignores, or rather has to ignore, possibly different understandings of

15 Weber relates Frensdorff's uncanny ability to make the student doubt what he first thought was certain

16 Weber might not be seen as ultimate reference at all, but on the other side, the question arises, what this study can tell as long 'cultural studies of mass belief' just consider one cultural point of view.

the question or the used terms in order to keep the collected data comparable, and cannot be discovered by using WVS.

Besides a one-sided understanding of the concept of >democracy<, they as well use uncritically >modernization< and >development< in terms of middle-income and low-income countries (Welzel/Inglehart 2009a: 128) defined and categorized by the World Bank, whilst ignoring a complete discourse about global social inequality (cf. Therborn, Göran (2003 and 2006), Arrighi, Giovanni (2002), Galbraith, James (2002)). From present viewpoint, even their reference to critiques on world system theory must be reconsidered when looking to the final ends of foreign investment in Asian tiger economies during the economic crises of the recent years, that creates doubts of whether even the development in monetary terms has really created a development comparable in strength and stability as established in the industrialized world. Another critique must be stated in regards to their assumed modernization-democracy causal chain of argumentation. There is no theoretical and practical evidence of the assumed linkage, but broad critiques, such as the one of Martinez-Alier, in which he opposes Inglehart's causal chain application to the growth of environmentalism in Western Europe due to socioeconomical growth. „Against Inglehart” he states “I argue that western environmentalism grew in the 1970s not because the western economies had reached a 'post-material' stage but, precisely the contrary, because of material concerns about increasing chemical pollution and nuclear risk.” (2002: 4) This approach just shows that there could be created many other possible causal chain linkages than those which Welzel and Inglehart assume for modernization theory revision, which aren't considered. Furthermore, recent historical events rather give evidence for the fact that Western centred modernization theory has suffered defeat by historical facts.

Furthermore, they refer to Montesquieu's understanding of society (Welzel/Inglehart 2009a: 127), not even mentioning the theoretical discourse and the opposition of Jean-Jacques *Rousseau*. Montesquieu's theoretical society concept, by including division of power, is close contemporary Western democracy understanding, but is to be seen as merely as one view on the topic.

The term >emancipation< is used without even been discussed, although the debate about it is very current. Welzel and Inglehart assume a mainstream understanding of emancipation and therefore of equality. The direction of the debate can be illustrated, for instance, by Khader's examination of Irigaray's critical position, which is widely discussed in disciplines related to the question of emancipation such as gender studies: "Irigaray wants us to pay particular attention to one structural feature of political equality claims. This is that—since they are usually demands that some existing inequality be redressed—they usually take the actual status of one sex in the status quo as a

desirable universal. What one sex actually has is what both sexes should have. This manifests what Irigaray disdainfully calls “sociological thinking”—the idea that the universal we should aim for is something we can find actualized in the world in which we already live (2003, vii)—irrespective of the fact that that world is already dehumanized and dehumanizing” (167). More importantly, the idea that both sexes should have what one sex has in the status quo makes equality claims susceptible to employing facile analogies between the experiences of women and men. In a world where the universal has already been designed to exclude women and women’s experiences tend to be represented in a degraded way, we can expect that equality claims will often leave women losing out.” (Khader 2008: 51) Instead of recognizing or even considering the debate, the authors naturally add >postmaterialist values< as outlined in Inglehart's important work to the >index of emancipative values<. Like all WVS based thoughts and analyses, strongest evidence is given by the long term sampled data, such as the postmaterialist change, which is one of the central theses provided by Inglehart. Looking for his cultural map for instance (Inglehart/Welzel 2010: 554) critiques appear in the lack of traceability as how the non-comparable, different categories (English Speaking, Confucian, or Latin America) are theoretically derived. Categories there as well as in the conducted study (2009a) seem to be chosen randomly, not as a process of logic categorization.

Then they open up the topic of the “failure of democracy in Weimar Germany” by reasoning that “Hitler came to power” (Ibid) since in Germany there was “‘democracy without democrats' ” (Bracher 1971; in: Ibid). Just to mention other interpretations of the same issue, even mainstream historians rather talk about a “Machtübertragung” (power transfer) (Winkler 2007: 93) than about a >coming to power< by elections. This term rather suggests that other influences, such as institutional or economic failures, have been responsible for the national socialist fascism.

Another bias is in the selection of the factor loadings. In order to fulfill the representativity claim any re-adjustment just weakens the real advantage of the WVS: A long term data set, which can be cross-level linked, but re-adjustments are required in order to keep the data set up to date as well as to consider 'new' or to stress less-considered topics.

“Unlike standard survey analysis as the WVS, Q methodology is interested in establishing patterns within and across individuals rather than patterns across individual traits, such as gender, age, class, etc. (...) What Q methodology attempts to elicit are the variety of accounts or discourses about or around a particular discourse domain, theme, issue or topic.” (Barry/Proops 1998: 339)

As stated, certain biases of Q methodology aren't as simple to be outlined as in regards to the appliance of the WVS. The huge variability of Q methodology, the large amount of time to design and execute leads to very different applications, which can reveal more or less biases in itself. In

general, one can state, that the extraordinary strength of the World Value Survey is always the weakness of Q methodological appliances: “Q-method is biased toward small person-samples and single case studies” (McKeown/Thomas 1988: 36)

Conclusion

As could be shown in the examination, Q methodology provides strong evidence to research discourses and conflicts whilst considering, at the same time, direct influence of respondent's subjectivity by constructing the sample. As well, Q methodology unifies both the traceability of empirical data collection and results and the avoidance of the above named one-sidedness. The general problem of representativity and generalization is a continuing problem in social science. In opposite to the WVS “It is not, however the ‘constructors’ —the participants — who are the focus of the approach but the ‘constructions’ themselves”. (Stainton-Rogers 1995: 180) Therefore, Q methodology is adequate to provide, beside enriching contemporary scientific debates by the results, concrete action directives and is still open for applying further researches in order to deeper analyze the given situation or conflict.

The World Value Survey itself is a one-sided math-focused instrument, whose cultural sociological legitimacy comes from its obedience to the leading domination structure. Researches of Inglehart and others, based on the WVS, can and will always provide results, which can just affirm or falsify dominant class ideology, since any change in a relevant paradigm will render the whole data sample null and void. Furthermore, the impossibility to change variables or to enrich this approach by some qualitative data constrains researches to not exceed the given limits. A look to the provided theoretical literature of the exemplified Welzel/Inglehart study gives evidence for that. Both, understanding of civic culture (Almond et al. 1963) and democracy theory (Eckstein 1966) refer to literature more than 40 years old, before the first wave of either EVS or WVS had been executed. From a theoretical point of view, the WVS study demonstrates eurocentric assumptions and the implicit request for the rest of the world to follow the Western example in order to develop. This can be seen from a critical viewpoint, or rather from a non-European worldview, on the author's considerations about >Regime Legitimacy<: “Unfortunately” they state “people not always support democracy, and when they do, they do not necessarily support it intrinsically, for the freedoms that define it.” (Inglehart/Welzel 2009a: 131) This is rather a political statement than a theoretical examination. Many cultures in the world have lots of reasons for not supporting Western defined freedom and democracy, which finally leads to liberal economic deregulation of the market forces and strengthened Western culture domination. From a critical scientific point of view, scientists like

Inglehart and Welzel might be naïve, from a methodological viewpoint, WVS ends up in endless factor analysis without any final conclusion other than that the society in which we are living is probably not the best, but definitely the best possible, which does not really give new or better results than those which have already been assumed. Finally, this paper has made apparent the questionable and unreflected use of WVS. As in many scientific disciplines, the described situation shows that the mere fact of a method being the standard does not necessarily mean that it is the best choice.

We strongly recommend questioning, on the one hand, this obviously culturally limited understanding and eurocentric viewpoint of WVS whilst, on the other hand, offering Q methodology as a starting point for opening up to methodical pluralism.

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Abbreviations

WVS: World Value Survey

EVS: European Value Study

GPL: General Public License