DESCRIPTION, EXPLANATION AND METHOD IN SOCIAL REPRESENTATION RESEARCH□

WOLFGANG WAGNER

University of Linz, Austria

The concept of social representation is multifaceted. On the one hand, social representation is conceived as a social process of communication and discourse, in the course of which meanings and social objects are generated and elaborated. On the other hand, primarily in empirical content oriented research, social representations are seen as individual attributes, as individual structures of knowledge, symbols, and affect, which are shared with other people in a group or society. This dual view of the concept makes is versatile and gives rise to various interpretations and uses which are not always compatible with each other. Its versatility stems from a particular openness of the theory which makes it possible to be appropriated, that is "used, mingled with and incorporated by other approaches within social psychology" (Allansdottir, Jovchelovitch & Stathopoulou, 1993). Such openness can be a serious drawback (Jahoda, 1988) or a precondition for further development and elaboration (Moscovici, 1988; Farr, 1992, 1993).

Part of this problem results from an unfinished discussion of the epistemological aspects of social representation theory. In this paper I will present remarks on some epistemological aspect of social representations, seeing their function and position within a framework of explanatory structures in social psychology involving different levels of assessment.

A scientific theory has the sense to describe and explain a phenomenon. By doing so, a theory puts the phenomena which are captured by concepts in a processual and causal order. In social representation theory the phenomenon is the different kinds of folk theories, common sense and everyday knowledge, which we call social representations (Wagner, 1995). While we are quite sure about the description of the phenomenon, i.e. what to call a social representation (de Sá, 1993; Doise, 1990; Moscovici, 1988: Wagner,

---

1994a), we are less sure about what the theory of social representations actually does explain.

To wonder what a representation does explain may sound strange. Isn't it that a social representation explains the behaviour of the individuals holding a specific representation in a given situation? Let us consider the investigation of the social representation of madness by Jodelet (1989). The author showed that her subjects share a multitude of beliefs about what madness is, how it comes about, and how one ought to behave in the face of mad people. One of these beliefs associated with madness was that madness implicitly was considered contagious. Consequently the hosts of patients tended to wash the cloths and the dishes of their "guests" separately from their families' cloths and dishes. In this example it seems to be the representation and the belief in contagion which explains the washing behaviour of the people. There is obviously first the representation i.e. the everyday knowledge of madness and contagion and then the specific behaviour of washing the cloths or dishes. So far so good. To propose an explanation of behaviour being caused by a representation just seems to be straight forward. But is this causal explanation relationship between representation as an independent variable and of subsequent behaviour as dependent variable in empirical research designs warranted?

The second problem where social representations enter a scientific explanation is in their role as dependent variables. It is quite obvious that different social conditions existing in groups or societies will have as a consequence different social representations resulting from the group's or the society's need to cope with new phenomena or problems. The question is therefore, how can the socio-genetic conditions of social representations enter the theory. This is the underside of the theory which we need to look into if we talk about explanation in social representation research.

Explanation and Levels of Assessment

A Model of Explanation

Before we analyse the specific problems associated with social representations we need to consider a model of scientific explanation for our purpose. In many sciences the *deductive-nomological model of explanation* usually is considered appropriate. According to this model a valid deductive-nomological explanation needs a set of *covering laws* and a set of *antecedent conditions,* which are instantiations of the relevant terms of the covering laws and which specify the characteristics of the event to be explained. The covering laws and the antecedent conditions together allow the conclusion that the event to be explained is a consequence of the given situation. If the general law, for instance, states that in a post-decision situation subjects will very probably show regret for having chosen the specific alternative, and a concrete subject in fact is in a post-decision situation, then we may conclude that the event *"S feels regret after having made a decision"* is explained by the law of *post-decision regret* in dissonance theory (Festinger, 1957) given the antecedent event *"S makes a decision".*

The deductive-nomological model presupposes (a) that the logical conclusion was drawn correctly, (b) that the explanation contains at least one general law, (c) that the law has empirical content, such that it does not contain a logical – analytical – but an empirical – synthetical – implication, and (d) that the propositions of the explanation are true. There

is considerable doubt, however, whether psychological and social psychological theories and research does and can conform to these requirements. First, there is evidence that the majority of psychological theories does not contain *general* laws; it is much more likely that they are historically (Foon, 1986; Gergen, 1973; Gergen & Gergen, 1984) and culturally (e.g. Miller, 1984; Shweder & Bourne, 1984) variable. Second, there is considerable doubt whether the majority of psychological theories and laws can be considered synthetical. Thorough analyses of psychological theories have shown that many can be reformulated as common-sense theorems and that many involve implicit rational assumptions (Elejabarrieta & Wagner, 1992; Holzkamp, 1986; Smedslund, 1978, 1988). Both, their conforming to common-sense as well as their implicit everyday rationality, imply an analytical and not a synthetical character of such theories which prohibits their interpretation as deductive-nomological causal explanations. This is even more true for social representation theory (Wagner, 1993). Hence, the deductive-nomological model is not a useful approach for the present purpose.[1]

For application to social psychological theories we need a simpler model of explanation, which does not require general validity of covering laws (D'Andrade, 1986; Jahoda, 1989, p. 77). Here we use the "modal explanation" as suggested by von Kutschera (1982). The modal explanation model requires to establish a synthetical if–then relationship between an explaining condition or event, the *explanans*, and a to be explained event, the *explanandum*. A proposition is a modal explanation if there exists a phenomenon q and an implication relationship between the phenomenon q and another phenomenon p such that q implies p. This proposition explains the phenomenon p by the antecedent condition q, if and only if the implication does not hold for the contrary of q, *NON-q*. Hence, if any other event *NON-q* does not produce event p, if q is an event prior to p and if *the implication* is a synthetical relationship, we call this proposition a modal explanation of p by q. This "soft" model of explanation does much more justice to the majority of social psychological explanations than the "hard" model of deductive-nomological explanation.

LEVELS OF ASSESSMENT

A proposition which is an explanation always contains at least two concepts which refer to phenomena i.e. things, events, situations, organizational structures, institutional conditions or beliefs and behaviours of social actors. These phenomena can be assessed or measured at different levels of complexity. In a theoretical perspective these levels in social psychological research have been described by Doise (1986) under the heading of "levels of analysis". Despite their usefulness in a general view, the "levels of analysis"–approach does not lend itself to our purpose (Wagner, 1994a). We will refer here to a methodological and not to a theoretical perspective and therefore we will use the term "levels of assessment" to discriminate phenomena in terms of the procedures by which they are assessed.

---

[1] The problem whether the model of deductive-nomological explanation conforms to the requirements of social psychological and social scientific theories is, of course, much more complex. But it is not the place here for a thorough discussion. See for instance Cummins (1983), Harré (1990), Wagner (1994a).

The term level of assessment is understood as a methodological construct. By deciding on a measurement procedure of any process in the social sciences, the researcher also decides the level at which the respective phenomenon will be mapped. In a way, measurement implies an ontological fixing of the process one is interested to tap. That is, the decision on the method in an empirical investigation determines which aspect of a phenomenon can or does appear as real. The methodological decision is always also an ontological decision in this sense, because the things attain reality only by interacting with them. And interacting in social sciences means assessing a research object of which measurement is a part. Hence, we take a constructivist position with regard to methodological procedures.

Two levels of assessment are suggested here, which play a crucial role in social representation research: The level of individual and the level of social/cultural assessment.

(a) The *individual level of assessment* comprises all social psychological concepts which refer to phenomena within the subjective world of understanding, feeling, and willing of the individual person. They are all well-known in psychology as perceptions, recollections, attitudes, intentions, thinking, emotions, affects, and behaviour. These are all assessed and measured at and theoretically localized within or related to an individual. The great majority of all constructs used in social psychology are part of this class of phenomena.

Because of being defined in terms of research method the individual level of assessment comprises not only private perceptions, recollections, attitudes, intentions, thinking, emotions, affects, and behaviour of people, but also beliefs which are shared between social actors and common in social groups. Although such beliefs may pertain to a social or ideological *level of analysis* in theoretical terms (Doise, 1986), these socially shared opinions, representations, and ideologies are part of the individual *level of assessment*, *as far as they are assessed and measured at the individual person or can be attributed to a specific subject.*.

(b) The variables and concepts at the *social, cultural or group level of assessment* comprise facts, which appear to the individual as a kind of material a-priori. It is the social, cultural or socio-mental ecology which is not under control of single individuals. If the variables and concepts are assessed at this level, they reflect properties of societies, cultures, groups, sub-cultures, social classes or sub-groups, respectively, as a whole. For example social institutions, economic phenomena, socio-cultural norms, and ideologies, pertain to this level. It is obvious that concepts at this level do not reflect any property which could be attributed to a specific individual, but only to an *aggregate of individuals with own emergent properties*. By emergent properties it is not meant to postulate a social metaphysics, but only to delimit such properties which are defined by their measurement procedures at a supra-individual level. Their characteristics are derived completely by their specific kind of methodological assessment and theoretical treatment. Such properties, of course, in the majority of cases are not within the reach of individual psychological methods, but depend on the methods of social psychology, sociology, economics, social-, and cultural anthropology.[2]

---

[2]   As an intermediary level it is useful to postulate a *situational level of assessment*. If, according to Tajfel (1981), the inter-group phenomena can be located theoretically at one pole of a dimension, where the other pole is characterised by inter-personal events, this latter class of events would pertain to the present situational level of assessment. This level should comprise variables and concepts

SPACES OF EXPLANATION

Due to their complex character as social entities which are part of an individual's knowledge, explanations in social representation research may involve phenomena from different levels of assessment. This is not a minor problem and its consequences need to be considered. If, for example, we find that a number of individuals which we interviewed and questioned possess the social representation R, and that this representation came about because the social group where these subjects are members from, has elaborated collectively this knowledge (as we know from media and document analyses), we are articulating a social level of assessment with an individual level of assessment. This is so, because we basically state that the representation which was collectively elaborated by the group as a whole explains the fact that the individuals which we chose as subjects and interviewees exhibit the specific representation R. Or, stated more bluntly, the fact of collective elaboration determined the individuals to hold the representation given certain beneficial conditions. The social fact of a collectively elaborated representation assessed by media and document analyses refers to the group as a whole. The fact that specific individuals possess a representation R is assessed individually by questionnaires and interviews. From interview and questionnaire data we know that Jim, Sandra, and Robert, for example, think such and such, whereas from content analyses of media and documents do not know whether Danielle, Agnes, or Martin *really* think such and such, even if they pertain to the respective group. Hence two different levels of assessment are articulated in such a type of explanation defining an *"explanation space"*.

An *explanation space* here is understood as a set of concepts which can be connected by an implication relation to yield logically valid explanations. Let us consider the following example (Putnam, 1974). Imagine a board with two holes in it. One hole is square and the other one is circular, both with approximately equal diameters. A square peg with a somewhat smaller diameter, consequently will fit through the square hole but not through the round hole. In order to explain this fact C one can develop two explanations. The first (micro-) explanation *(A)* could be to measure the location and impulse vector of all elementary particles of the board and the peg, then derive from this micro-structure the law that the particle cloud constituting the peg will fit only through the place in the particle cloud of the board, where the board particles are replaced by the

---

which describe transient facts in the directly perceiveable sphere of individual interaction. Such facts underly direct personal influence. These may be small groups which are still comprehensible for the individuals involved, and also physical givens where the individuals stay temporarily, like, e.g., experimental situations, where the participants in the experiment part at the end. It is important to stress the transient character of such situations within the daily practice of the subjects in order to distinguish them from long-term stable structures as macro-social givens.

A construct at this level is supposed to describe an *attribute of the situation as a whole*. Experiments and theories within the tradition of game theory or communication network analyses are typical examples of this level. They deal with changes in parameters of the situation, which are determined artificially by the game score and the game structure defined by the pay-off matrices. Characterising a game as a zero-sum or non-zero-sum game, for instance, would constitute such a parameter. In his monograph on groups and individuals Doise (1978) introduces such situational parameters when the games are defined as individual or collective gain-maximization. Examples from group psychology would be concepts such as "similarity", "group homogeneity", "group cohesion", etc., which depict a structural relationship between interacting individuals. Such variables cannot be assessed at a single individual, but only as an attribute of the whole net of interaction.

penetrable particles of the air, which is the square hole. Since particle clouds of rigid objects usually are impenetrable, the peg particle cloud cannot pass through the round hole with a differently formed particle cloud.

Alternatively, another (macro-) explanation *(B)* also would seem viable. One could establish the geometric features of board and peg and, by comparing measures, conclude that the geometric shape of the peg is such that it fits through the square geometry of one hole but not through the round geometry of the other hole of the board.

Both explanations are in a way equivalent and at the same time strangely different. The macro-fact *C* of the peg fitting through the board at the location of the square hole can certainly be explained in a standard manner by stating *B*, the geometric facts of the situation. Hence *B explains C*. Equivalently it could be established without problem that the geometric facts *B* are explained by the micro-structure of the situation *A*: *A explains B*. By concatenating *A* with *B* and *B* with *C*, a new explanation could be suggested which explains *C* by the fact *A*: *A explains B explains C*. Short-circuiting this latter explanation would result in *A explains C*.

However, although the concatenation *A explains B and B explains C* is both possible and reasonable in some circumstances, the transitive short-circuit *A explains C* is invalid: The parent *A* of an explanation *B* of the fact *C* is itself not an explanation of *C*. Explanations involving different levels of complexity are by standard assumptions intransitive. This is so because "the relevant features of a situation should be brought out by an explanation and not buried in a mass of irrelevant information" (Putnam, 1974, p. 132). In parent explanations the relevant and the irrelevant features usually cannot be singled out.

This intransitivity of explanatory propositions relates to our problem of articulating concepts and theories stemming from different levels of assessment. Although the psychological functioning of individuals is a material prerequisite for the existence of groups and societies, individual psychological functioning does not "explain" "higher" level phenomena in a straight forward manner. The "higher" level phenomena realize themselves by boundary conditions which appear as accidental from the point of view of "lower" level disciplines. "The laws of the higher-level discipline are deducible from the laws of the lower-level discipline together with 'auxiliary hypotheses' which are accidental from the point of view of the lower-level discipline. And most of the structure at the level of physics is irrelevant from the point of view of the higher-level disciplines; only certain features of that structure …, and these are specified by the higher-level discipline, not the lower-level one. ... The laws of human sociology and psychology ... have a basis in the material organization of persons and things, but they also have an autonomy just described vis-a-vis the laws of physics and chemistry" (Putnam, 1974, S. 134).

The relative autonomy of the explanation spaces of different sciences at differing levels of aggregation and assessment implies that explaining for example an aggressive act of some person *P* must conform to the respective space of explanation interest. The explanation space is implied by the kind of question, on the one hand, and by the addressee of the explanation, on the other hand. For the case of aggressive behaviour the neurophysiological processes in the brain ("lower" level fact) usually will not be a valid explanation, whereas reference to personality, affects, intentions, and aims of the aggressive person will very well be a valid explanation. Equally, the fact that *P* nominally

pertains to, say, the social group of de-classed youths (a "higher" level fact) usually will not be a valid explanation for *P's* aggression as long as it is not explained why and how *P* specifically has attained a higher than normal level of aggressiveness. This could be achieved by establishing that *P* is aware of his or her social deprivation and that *P's* experience was such that deprivation "legitimately" can or must be expressed by hooliganism.

In the context of articulating levels of assessment in explanatory propositions one needs to take into account the respective levels of the *explanans* as well as of the *explanandum*. The following schema depicts the possible relationships in explanations (Table 1).

The main diagonal in this schema comprises conceptually homogenous explanatory propositions with regard to levels of assessment. In those cells *explanans* as well as *explanandum* are located at the same level. Contrary to the non-diagonal cells they do not pose any problem with regard to articulation of levels. Cell A contains psychological and social psychological theories about relationships between intra-personal variables. Cell B contains theories at macro-levels, like (macro-) sociological, economical, and

TABLE 1

Relationship between *explanans* and *explanandum* in explanations.

	Level of assessment of *explanandum*	
	Individual	Social
Level of assessment of *explanans*		
Individual	A*	C**
Social	D***	B*

*) Explanations with homogenous explanation space.
**) Micro-reductive explanations.
***) Macro-reductive explanations.

anthropological theories.

Cell C characterizes theories articulating a "lower" level *explanans* with a "higher" level *explanandum*. Such theories can be called micro-reductive and usually are considered problematic because the two arguments of such an explanatory proposition pertain to two different spaces of explanation. This is the field of discussions on the viability of reductive explanations and should not concern us here (cf. Alexander, 1981; Friedman, 1981; Munro, 1992).[3]

Cell D in Table 1 represents explanatory propositions where a phenomenon at a lower level of assessment is explained by a fact at a higher level. Sometimes such propositions are called "holistic" (Alexander, 1981). Here they will be called "macro-reductive" (Friedman, 1981).

---

[3] Evolutionary theories also pertain to this class, but they take a position of their own right (Wagner, 1994a, pp. 260ff). Theories of the evolutionary kind "explain" the process of the emergence of more complexe "higher" level structures from anterior interactions of simpler "lower" level elements. This is in sharp contrast to micro-reduction where no such intermediary steps are included in the explanation.

Macro-Reduction and Social Representations

Taxonomic Priority

In epistemological terms macro-reductive explanations do not represent simply the reverse case of micro-reduction. A "bottom up explanation" is not symmetrical to a"top down explanation". Let us consider a simple illustration of this relationship. Imagine a *cooking-pot* where water gets heated. We can measure the temperature of the water by using a thermometer. The temperature is the relevant parameter to describe the large-scale condition of the contents of the pot. If we look at the H_2O molecules we can see them in a movement becoming faster, the higher the macro-temperature. There is a correlation between temperature and velocity of the molecules. We can, however, not use the concept of temperature to describe the behaviour of a single molecule. It does not have an attribute called temperature, but an impulse which is measured with completely different methods than a thermometer. For their description the macro-concepts become obsolete and other conceptualizations must be used. It would not make sense to say that the molecules move and have such and such speed because of their temperature or because they possess the disposition to behave according to the macro-temperature. Articulating "micro" and "macro" in this illustration is a problem of measuring as well as of theory.

It would make more sense to speak of an intra-individual representation of the temperature condition, if the molecules were human subjects. Members of a social group dispose of implicit and explicit knowledge of the conditions of their social "cooking-pot". Their implicit and explicit knowledge, rationalizing and justifying their actions, represents an objectivistic (habitus, Bourdieu, 1980) or subjectivistic (representational knowledge) explanation of their behaviour (Wagner, 1989).

This relationship between macro-condition and micro-phenomena is summarized in the *"taxonomic priority thesis"* (Harré, 1979, 1980). It states that conditions, processes, products, and structures at a lower level of assessment or aggregation can only be classified correctly if one departs from the super-ordinate level. Each condition at the super-ordinate level corresponds to a specific condition at the subordinate level – analogous to a homomorphic mapping from bottom to top – while the reverse statement is not true; a specific condition at the lower level is compatible with various conditions at the higher level. On the one hand the taxonomic priority thesis negates micro-reductive explanations and on the other hand it demands a macro-reductive approach for the description and explanation of individual phenomena. Behaviour and thinking of individuals makes sense only if it is seen in the context of their restricting social conditions; but the modal pattern of individual behaviour does not determine a specific social condition (Putnam, 1974, but see Moscovici, 1993, for a modified view). The relationship between bottom and top is not symmetrical.

Social facts need to be translated into intra-individual mental entities before they can be used to explain or to be articulated with individual behaviour (Devereux, 1961). It is not the nominal group membership of a subject which makes it act socially as it does, but the *mental representation* of social facts. Let us consider an individual behaviour shall be explained by a social fact. According to Devereux the proposition *the social fact explains the individual behaviour* would be incomplete because it lacks the translation of the social fact into an individually assessable mental fact. Only the three-step proposition *the social*

fact explains its being mentally representad and the mental representation explains the individual behaviour would be complete. The (macro-reductive) translation is a necessary prerequisite for social explanations of individuals' mental and behavioural phenomena. As will be shown subsequently this is an implicit assumption in social representation theory.

LEVELS OF ASSESSMENT OF SOCIAL REPRESENTATIONS

Within the field of social representation research we observe two distinct uses of the concept of representation, depending upon the researchers' explanation interest and assessment procedure. One use refers (a) to the knowledge system of *individuals qua representatives of specific groups*; the other refers (b) to attributes of *social units per se*. The first is interested in the characteristics of social representations distributed among the subjects, the other is interested in the collective process and social product of discourse
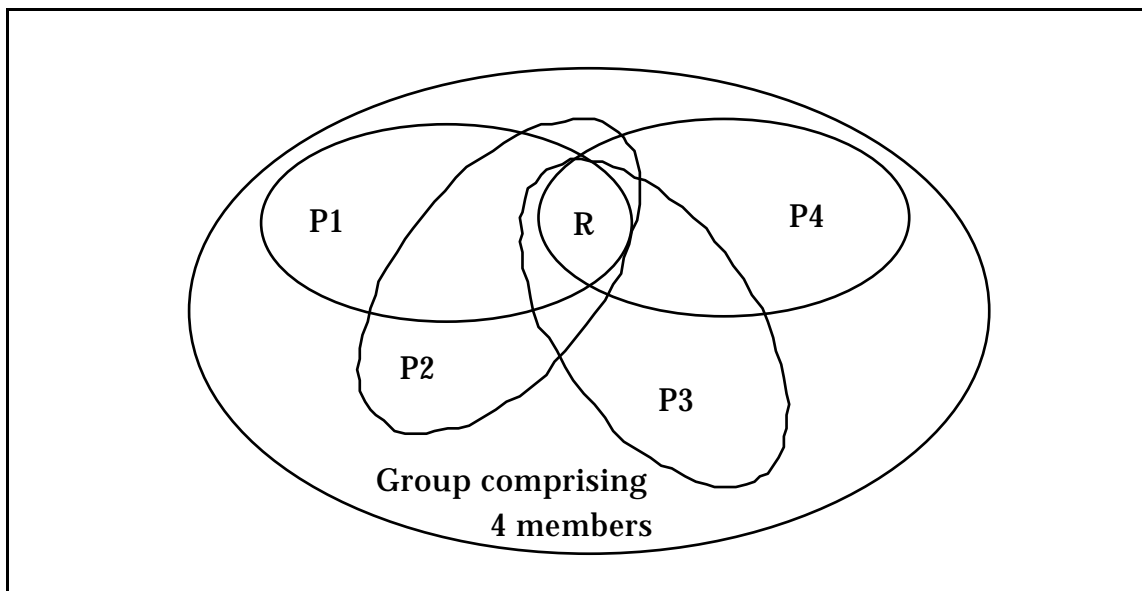

Figure 1
The common elements of the persons' knowledge form the central nucleus of the representation.

and communication (Harré, 1984).

(a) If one is interested in the distributed characteristics of social representations the researcher refers to the individual level of assessment. This is true also if the assessment procedure of the representation – as in most cases – involves a sample of many individuals. The point of interest in such studies is the set of constant elements in a representation which can only be identified by sampling several individuals. Hence one will collect data from a rather homogenous sample. The representation as assessed by such research is the common elements of knowledge produced by the persons in the

sample.[4] The resulting representation then will be the *individually distributed prototypical representation* of common elements (Figure 1). These prototypical elements of a representation often are called *central nucleus* (e.g. Abric, 1987; Moliner, 1992). The majority of present research pertains to this understanding of social representations.

Jodelet's (1989) seminal investigation of the representation of madness in the inhabitants of a rural village in France is a speaking example. The village represents a significant subgroup of French rural villages, because of its tradition to house and care for mentally ill persons by the resident families. This close contact to mentally handicapped people gave rise to a highly elaborated local representation of mental illness, which cannot be found in many other subgroups of French society. The core oppositions of nerves and brain, as well as the conditions of the initial attack of illness – birth or accident –, and which underlie all related, opinions, attitudes and related behaviours forms a prototypical and modal system of knowledge shared by the residents. Therefore one can say that each native inhabitant of the village bears an exemplar of this specific social representation of mental illness.

(b) If, in contrast, the researcher is interested in the collective characteristics of a social representation, he or she assesses the representation pertinent in groups by document and media analyses or by surveys. This does ensure that the resulting *collective view of the social representation* contains not only opinions of single more or less important subgroups, but that it takes account of the different versions, points of views, and depth of elaboration of one and the same social object in a larger social group.

Social representations in groups underlie a linguistic (Putnam, 1988), cognitive (Moscovici, 1991) or representational division of labor. As a consequence, representations of one and the same social object exist in various states of elaboration in different sub-groups including different aspects of the object which may not be all relevant for each sub-group. However, only the total of these aspects can be considered the *social representation of the respective object for a social group as a whole*. In this case the researcher intends to assess the total of all versions existing of a representation in a larger social unit.[5]

The resulting global representation is the *collectively complete representation* with elements not common for all groups, but typical and relevant for one or the other group.[6] This social representation is not be part of the individual level, but of the social or group level of assessment. It contains elements and has a structure which in their totality cannot be found in single persons, but only within the group as a whole. Neither does it boil down to the modal "score" of a group members' individual representations, but represents a macro-structure of its own (Figure 2).

---

[4] Put formally this would read as: $R = \{R_{P1}, R_{P2}, ... R_{Pn}\}$, where R is the respective representation and R_{Pi} are representations distributed over individuals of a more or less homogenous (sub-)group.

[5] Put formally this would read as: $R = \{R_{G1}, R_{G2}, ... R_{Gn}\}$, where R is the respective representation and R_{Gi} are representations distributed over representatives of subgroups with different socially relevant points of views within the representational division of labour.

[6] It must be stressed that I do not refer to the term "hegemonic" representation as discussed by Moscovici (1988). The term emphasizes a high degree of similarity of representations in large scale social units.

Moscovici (1976), in his study of the representation of psychoanalysis, focused also on this latter understanding of social representations. He showed how different groups in French society developed their typical understanding of psychodynamic processes depending upon their preexisting ideological framework and interests. The representational division of labor was reflected, for instance, in the differing approaches of mass media to the new theory. Liberal and not ideologically bound media approached psychoanalysis and its implications quite differently than explicitly catholic media or radical leftist magazines and newspapers. So each subgroup of French society attained its typical knowledge of psychoanalysis which differs in details. But only the union of the
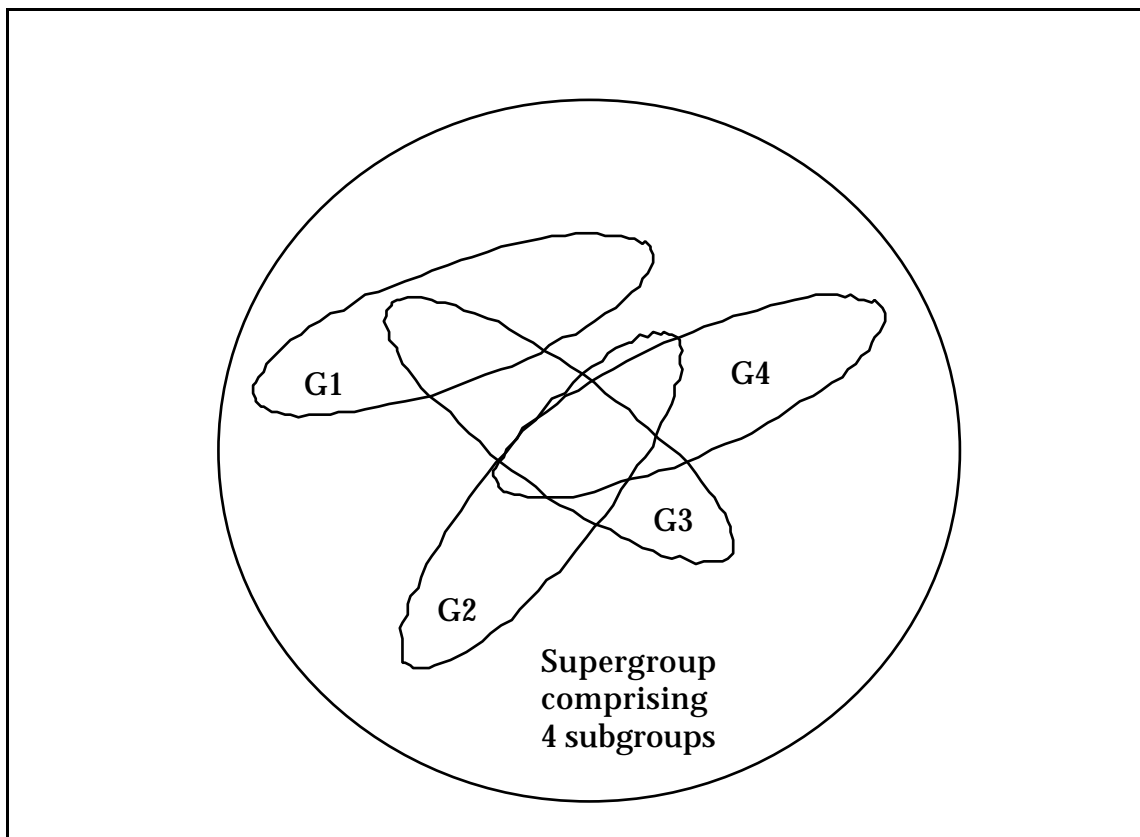

Figure 2
The combined elements of sub-representations of sub-groups form the global representation.

different group specific "sub-representations" can be said to be the social representation of psychoanalysis in French society; and it is the total of these group specific "sub-representations", including the professional psychoanalysts themselves which assures the complex social interaction, which only *in toto* constitutes the object of psychoanalysis in French social discourse.

The subjects of study in Jodelet's (1989) investigation on mental illness where the native residents of the village. In fact, however, there were other subgroup of people living at the location: The doctors, the nurses, and the administrative staff. With respect to these additional groups the social representation of mental illness of the village dwellers is

only a sub-representation. If we consider the global organization of those villages – as an open psychiatric hospital –, this institution does function only because of the coordinated interaction between the different sub-groups of hosts, nurses, doctors, staff (and patients). Hence, in order to describe and explain the working of the organization writ large, we would have needed to assess more than the representation of the host-sub-group.[7] The institution works as it does only by the joint presence of the certainly divergent representations of all relevant subgroups forming the collectively complete representation of mental illness in the community, and integrating its everyday practical, medical, and administrative aspects.

Vergès (1987, 1989) studied the representation of economy in different social subgroups. He found divergent representations of economy in groups managers, blue collar workers and e.g. social workers. This divergence, of course, is no surprise if one takes the groups' different functional positions in society into account. According to their social position the members of each subgroup share a rather homogenous image of economic processes. These images represent modal representations typical of the members of any specific group. However, only the union of all relevant representations of specific sub-groups is a social representation of economy in a society in the collective sense and it is this total which governs a society's social and economic life.

The relationship between a representation assessed at the individual level (a) and a representation assessed at the social level (b) is macro-reductive. The existence of the social process explains the individuals' knowledge system. The group's collective system of understanding, justification, and rationalization of its practice defines the frame within which the group's members can attain an understanding of their social situation and identity. This is equivalent to the translation step demanded by Devereux (1961) for social facts to become valid *explanantia* for individual facts; that is the transformation of a social fact into an individual mental phenomenon, representation or behaviour.

This macro-reductive translation step was discussed and approached in social representation research primarily in three contexts. First, Moscovici's (1976) extensive discussion of mass media, specifically newspapers and journals at the time of his investigation. Second by developmental research looking into the ontogenesis of social representations at the individual level of assessment (e.g. the volume edited by Duveen & Lloyd, 1990). The child's attainment of social knowledge mirrors exactly the transformation of social representations into an individual attribute. Third by Sperber (1990), who highlighted the problem of translation when he demanded to pay attention to the epidemiological processes articulating potential collective images and metaphors and their differential cognitive acceptance by individuals. And finally by Wagner (1994c, 1995) in his discussion of socio-genesis and its consequences for the structure of distributed social representations.

Whether certain images and metaphors appeal to the modal members of a specific group and therefore are integrated in the distributive representation within a group depends on many aspects. There is the pre-existing cultural and political orientation, e.g. of managers, blue collar workers, and social workers in Vergès' investigation, which restricts the acceptability of certain elements of economic knowledge; there is the

---

[7] Jodelet also mentions the role of medical knowledge of the staff which gets transformed and integrated in the popular social representation.

functional role of the group in the social system, as e.g. the hosting families in Jodelet's investigation, which governs the acceptability of medical explanations of mental illness provided by doctors and nurses; there is the educational background and availability of mass media, as e.g. in Moscovici's investigation, which restricts the potential access of the man on the street to the details of psychoanalytic theory. The concrete social conditions subjects live in provide the space of experience within which new knowledge can be objectified and integrated into the stock of common sense (Wagner, Lahnsteiner & Elejabarrieta, 1995).

In every case, however, it is a translation process of attributes of a collectivity into attributes shared by social individuals. This translation process *explains* the coming into being of the social individuals' knowledge and representations by giving the details of their collective ecology. Since the individuals' mental and behavioural states represent a different level of assessment that the conditions of a collectivity, this explanation can be called *macro-reductive*, bridging two distinctly different levels of assessment.

SOCIAL REPRESENTATIONS IN EXPLANATIONS

Social representations may enter explanations either as (a) *explanandum* or as (b) *explanans*.:

(a) A representation at the social level of assessment may enter an explanation as explanandum – viz. "dependent variable".[8] In this case the explanatory proposition is supposed to give the cause of the representation.

(b) A representation at the individual level of assessment may enter an explanatory proposition as explanans causing a subsequent phenomenon.

Figure 3 depicts the conceptual context of these explanations.

EXPLAINING SOCIAL REPRESENTATIONS

The social conditions under which a group lives delimit the space of experience of its members. Social structure – via socio-genesis of social representations (Wagner, 1994c, 1995) – determines to a large extent what and how the members of groups think; i.e. the mental condition of group members reflects social structure. This relationship was coined "structural homology" in the sociology of Bourdieu (1980). Structural homology means a homological relationship between the structures of different social fields i.e. a relationship which is characterized by a common causality, function and history of the two fields. This means that "...the relationships within a specific field are of the same nature as the relationships within other fields." (Doise, 1976, p. 930)

Bourdieu and Saint-Martin (according to Doise, 1976) give an example of structural homologies in an investigation of educational institutions. They analyzed the institutional structures, the hierarchy of subjects, and organizational departments and the cognitive structures and taxonomies of the teachers working in these institutions. "Educational taxonomies – objective structures which have become mental structures in the course of a learning process accomplished in a universe organized in accordance with these structures

---

[8] Even if the terms independent and dependent variable originally pertain to experimental settings, and despite the fact that social representations are phenomena which can be experimented with only under certain conditions. I consider the terms legitimate for the present purpose.

and subject to sanctions expressed in a language equally structured in accordance with the same oppositions – classify in accordance with the logic of the structures of which they are a product." (Bourdieu & Saint-Martin, in Doise, 1976, S. 932) Even if individuals pertaining to the same social groups may be widely different in terms of their personalities, they resemble each other in the common basic structure of their social experience, thinking, and acting. They are similar with respect to their incorporated

```
┌─────────────────────────────────┬─────────────────────────────────┐
│   ┌──────────────────┐  add up to                                  │
│   │ Social condition,│◄──────────────│ Social objects/facts │      │
│   │ conflict         │               └──────────────────────┘      │
│                                                                     │
│   Explanans          │              Explanandum    ▲               │
│                      │                             │               │
│   causes             │              causes         │               │
│                      ▼                             │               │
│   Explanandum                        Explanans     │               │
│   ┌─────────────────────────────────────────────────────┐         │
│   │              Social representation                   │         │
│   │ Collective discourse      Individuals' social        │         │
│   │                           mentality, action and      │         │
│   │                           interaction                │         │
│   │                    gives rise to        ▲            │         │
│   │                 (via epidemiology)                   │         │
│   └─────────────────────────────────────────────────────┘         │
│   amenable to                        amenable to                   │
│                                                                    │
│   assessment and                     assessment and                │
│   explanation at                     explanation at                │
│   the social level                   the individual                │
│                                      level                         │
└─────────────────────────────────┴─────────────────────────────────┘
```
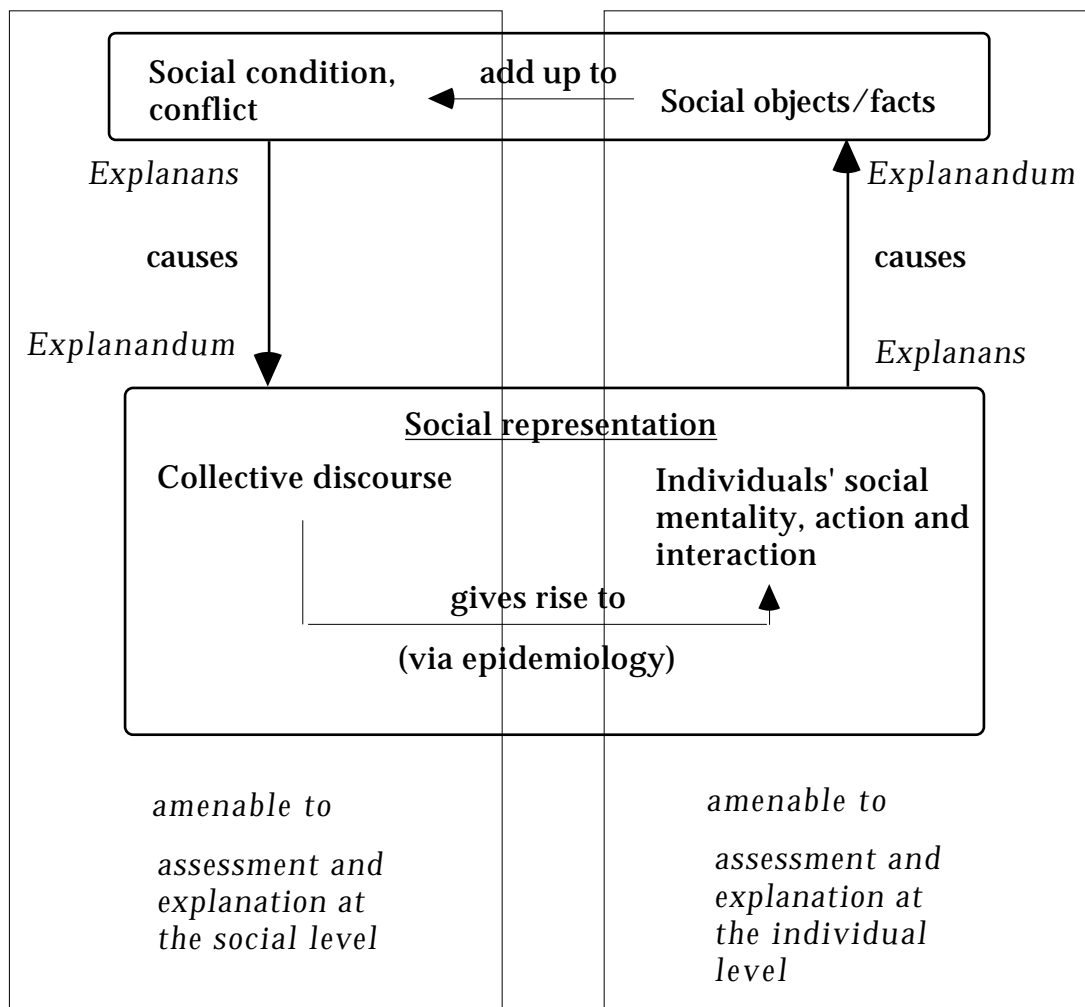
Figure 3
Schematic relationship between levels of assessment and explanations in social representations.

habitus as well as with respect to their shared patterns of language and rationalization i.e. with respect to their social representations. Although probably different in certain respects these mental dispositions are variants of one underlying pattern which is possible within the given socio-cultural conditions of living. The structural relationship between collectively shared mental and social conditions is homological because of its common history and social function.

To explain a social representation at the social level of assessment, hence, means to determine the social condition which gave rise to its coming into being and to characterize and justify the structural relationship between the two. A particularly clear example of such a research – though not conducted under the heading of social representation theory – is Bloor and Bloor's (1982) investigation of the relationship between beliefs of industrial scientists and the social structure of the institution they are working in. The authors show how the everyday and professional "cosmologies", i.e. the beliefs about what science is and ought to be like, how technical work is best organized, the moral presuppositions, etc., of their subjects relate to the organizational conditions of their work place.

According to Douglas' (1982) anthropological theory of social organization Bloor and Bloor (1982) discriminate four types of social structure in organizations: there are organizations with highly individualized and independent members, there are institutions with strongly ascribed hierarchy and others with faction-like group structures, and there are organizations where members are low in group affiliation but high in subordination. Each of these social conditions relates to a specific structure of everyday beliefs of the people working in them. Industrial scientists in individualizing organizations, for example, believe nature to be structured similarly as their institution: natural phenomena are not considered to be strictly ordered, they are irregular, and nature reveals its secrets only to specifically knowable individuals using the correct methodologies. Similar homologies between organizational and mental structure were found for the other conditions. The authors conclude "...that the preferred styles of work, the sense of optimum orientation to nature, the ideas of the morally permissible in science, do not come from the technical constraints of the work or from an earlier experience in university but from the social constraints current in the organization of work" (p. 97).

In social representation research there are few examples of such investigations. Most of the research investigating the relationship between social conditions and social representations depart from social conflict introduced by changes in the conditions of living. Flament (1987), for example, has shown, how changes in everyday practice implied by the introduction of new methods of agricultural production of rice in a traditionally millet growing society lead to the introduction of a new social representation in the rural population of Madagascar. Despite the little attention the problem of explaining social representations by social conditions has received, it is a legitimate and important task to show how social representations as dependent "variables" can be explained on this social level of assessment. It is certainly not a sufficient explanation to simply state that group A has such and such a representation and that group B has a different one as long as the researcher does not justify in detail the homological relationship between social structure and individual mentality.

WHAT SOCIAL REPRESENTATIONS CAN EXPLAIN

There is certainly much more interest in social representation research to use representations as an independent "variable" to explain subsequent phenomena i.e. to use representations as *explanantia* of, for example, behaviour. In this sense Moscovici (1984, p. 60ff) holds that representations are stimuli themselves and therefore independent variables in empirical investigations of behaviour and action.

An example of a research using representations as independent variables for explaining behaviour/action is Thommen, Ammann and von Cranach's (1988) investigation of professional beliefs and behaviours of psychotherapists. The authors show how the social representation of correct professional practice guides the therapists' professional actions vis-à-vis their patients as well as their colleagues. The authors studied the theoretical premises of two competing schools in psychotherapy – behaviour therapy and the client-centered orientation according to Rogers – by analyzing documents and interviewing therapists about their theoretical and methodological background knowledge and beliefs. In a subsequent step therapeutic behaviour of therapists was observed and analyzed. The authors show, for example, how non-directive therapists relate their clinical attributions and interventions to expectations and desires, whereas behaviour therapists relate more to cognitive information processing, goals, and dispositions of the clients. In their professional behaviour the majority of therapists conforms highly to their professional representations.

Echebarria and Gonzalez (1993) studied whether social representations in political contexts appear as secondary rationalizations of preceding behaviours, or as primary determinants of actual behaviour. In their study they administered an elaborate questionnaire designed to assess representations, attitudes, and intentions one month before elections were going to take place. After the elections they asked the same subjects again if they had voted or not. From the data they concluded that social representations appear to be to some extent justifications or rationalizations of previous social practices – here understood as the practice of voting in a political election – and at the same time that social representations appear as guiding behavioural intentions.

Such research conforms to the "classical" presupposition that beliefs and intentions of subjects can be used as causal explanations of behaviour and action, much like traditional attitude-behaviour research did. Epistemological and theoretical analyses, however, raise considerable doubt whether representations, understood as rational mental content, are legitimate *explanantia* of related behaviour and action. On epistemological grounds, on the one hand, it appears that representations – being rational dispositions of people for social behaviour – imply specific behaviour and action as a necessary logical consequence (i.e. analytically) and not as a contingent empirical (i.e. synthetical) consequence. If this argument is correct, representations and their related behaviours are highly integrated and mutually dependent entities which cannot be juxtaposed in causal explanations (Wagner, 1993).

On theoretical grounds, on the other hand, it can be argued that verbal data used to assess the content of a representation as independent variable are logically equivalent to data obtained from the "dependent" overt behaviour. Therefore these two kinds of data must be seen as two illustrations of the same representational contents. The researchers' preference for using verbal data to assess the independent variable and observation to assess overt behaviour introduces an artificial separation of representation and behaviour. These separated entities, representation and behaviour, then are linked by a causal/intentional relationship where the representation supposedly *explains* behaviour. This causal/intentional relationship, however, can be shown to result from misplacing folk-beliefs on behavioural intentions and behaviour. In everyday life people believe and *say* that they *act such and such* because they *think the behaviour appropriate* and correct in a given situation. Hence, the explain their actions by their foregoing beliefs and

intentions. Such a folk-statement reflects, however, a *belief of the subjects* and not a *theoretical statement* linking mental conditions and behaviour. It is a belief which is deeply ingrained in folk-psychology, but nevertheless a belief and therefore part of the subjects' world view. Hence they are part of the folk-representation and must also be assessed as part of the social representation. Sharing the same folk-psychology in everyday life, the researchers, of course, also subscribe to such intentional beliefs, but it is strictly speaking not legitimate to make this belief part of the explanations at the theoretical level. The subjects' convictions of their actions being caused by their representations justify to see themselves as rational beings. If a subject did not believe that he or she acted according to his or her knowledge, the subject would imply to be dumb and irrational (Wagner, 1994b).

On grounds of these arguments it seems that research explaining behaviour by representations misplace a belief on part of the subjects as a statement at the theoretical level. Such research takes what *is* a mental content of the subjects and introduces it into the theory *about* the mental contents of subjects. This is not legitimate in the same sense as it would be illegitimate to take the subjects' beliefs *about* madness and introduce into a scientific theory *of* madness.

What, if we follow these arguments, *can* be explained by representations? The answer is simple: Whereas representation-related overt behaviour is part and parcel of the social representation itself, it is the consequence of the behaviour in the social world which is in need to be explained by the "representation/action"-complex. Behaviour/action is logically and necessarily connected to the related representational beliefs, but its consequences are not. Action and action consequences are two distinctly different things.

Let me give an example: Di Giacomo (1980) has shown how representations were created in groups in the course of a student protest movement at a Belgian university. Militants and "normal" participants of the movement, however, formed such discrepant representations which lead to severe misunderstandings and problems of communication between the groups that the movement finally collapsed and did not achieve any goal. In this research it becomes particularly clear that it is not the behaviour of the individuals and groups which reasonably can be explained by a social representation. The overt behaviour is just one possible *expression* of the mental representation which also can be expressed verbally in interviews or in written form as pamphlets. It is the consequence of the representation/action-complex, of collective representation and action, i.e. the failure of the protest to achieve any desired result which constitutes a social fact and which can be explained causally. The outcome of the representation/action-complex is its contingent consequence and therefore amenable to a true causal explanation.

Di Giacomo's (1980) research also can be used to nicely illustrate what happens if we look at a protest movement from the social level of assessment. For this purpose let us fictively extend the example. Imagine that we have assessed the collective structure and content of the representation of the protest within the different groups concerned. So what is the "object" of this representation on this level? Is it the "protest"? or is it the event which lead to the protest? Most probably we might say, "well, the object being represented is the protest and its reasons". But what is this "protest"? Can we conceive of the protest without taking into account the events happening on and around the university? Consequently, isn't the protest exactly the pattern of collective behaviour of the groups, i.e., aren't the groups creating exactly this object and no other one by way of concerted

and mass-wise interaction? Hence, the object being represented did not exist before the representation was formed and became enacted on a collective level. In fact, when seen from the collective level, it becomes clear that the representation and the collective behaviour are but *one* side and not *two* sides of the coin. They can neither be separated - neither conceptually nor empirically - nor connected by explanatory causal relationships. Leaving aside one or the other part, be it the symbolic representation or the collective behaviour, would at once negate the whole thing: if we looked at the representation at the collective level without presupposing the affiliated behaviour, the object of the representation, the protest, would not exist, and consequently nor would the representation. If we looked at the collective behaviour only, we could interpret the events as signifying something like a protest movement, but: why the hell should these students act in such a concerted manner without sharing a common symbolic representation of what is to be done? Hence, this fictive example shows the indivisibility of this complex called "social representation" uniting symbolic, mental and behavioural elements, which only as a whole makes sense and simultanously gives birth to its proper object.

CONCLUSION

This chapter presents some meta-theoretical aspects of social representation theory. It argues that assessment methods have crucial implications for the kind of theoretical conclusions one may draw from an investigation and for the kinds of explanations one can give. Representations may pertain either to a social or to an individual level of assessment, depending upon the methods used in empirical research. These two levels of assessing social representations implies two different approaches with different goals.

Social representations usually can be explained by giving the socio-structural and socio-dynamic conditions of groups. This implies a deeper view into the socio-genetic processes giving rise to the formation of representations and belief systems. As the explaining part in an explanatory proposition, it is argued, representations and their associated behaviours allow to analyze why social events happen and how social objects are constructed. It is, however, the results or outcomes of action and behaviour which is explained causally by a representation and not the behaviour itself.

If this chapter seems to have unduly decomposed and separated social and individual aspects of social representations, this impression must be corrected here. I do not hold that these two aspects can and should be separated on a theoretical, but only at a meta-theoretical level. To observe some of the meta-theoretical consequences of the theory in empirical research should be a safeguard against losing track of the increasingly complex conceptual structure of contemporary social representation theory.

REFERENCES

Abric, J.-C. (1987). Coopération, compétition et représentations sociales. Fribourg: DelVal.

Alexander, P. (1981). The case of the lonely corpuscle: Reductive explanation and primitive expressions. In: R. Healey (Ed), Reduction, Time and Reality. Cambridge: Cambridge University Press.

Allansdottir, A., Jovchelovitch, S. & Statopoulou, A. (1993). Social representations: The versatility of a concept. Papers on Social Representations, 2, 3-10.

Bloor, C. & Bloor, D. (1982). Twenty industrial scientists: A preliminary exercise. In: M. Douglas (Ed.), Essays in the Sociology of Perception. London: Routledge & Kegan.

Bourdieu, P. (1980). Le sens pratique. Paris: Les Editions de Minuit.

Cummins, R. (1983). The Nature of Psychological Explanation. Cambridge, MA: MIT Press.

D'Andrade, R.G. (1986). Three scientific world views and the covering law model. In: D.W. Fiske & R.A. Shweder (Eds), Metatheory in Social Science. Chicago: Chicago University Press.

De Sá, C. P. (1993). Representações sociais: o conceito e o estado atual da teoria. In M. J. Spink (Ed.), O conhecimento no cotidiano. São Paulo: Editora Brasiliense.

Devereux, G. (1961). Two types of modal personality models. In: B. Kaplan (Ed.), Studying Personality Cross-Culturally. Evanston: Row Peterson.

Di Giacomo, J.P. (1980). Intergroup alliances and rejections within a protest movement. European Journal of Social Psychology, 10, 329-344.

Doise, W. (1976). Structural homologies, sociology and experimental social psychology. Social Science Information, 15, 929-942.

Doise, W. (1978). Groups and Individuals. Cambridge: Cambridge University Press.

Doise, W. (1986). Levels of Explanation in Social Psychology. Cambridge: Cambridge University Press.

Doise, W. (1990). Les représentations sociales. In: R. Ghiglione, C. Bonnet & J.F. Richard (Eds.), Traité de psychologie cognitive, Vol. 3. Paris: Dunod.

Douglas, M. (1982). Cultural bias. In: dieselbe, In the Active Voice. London: Routledge & Kegan.

Duveen, G. & Lloyd, B. (Eds.) (1990). Social Representations and the Development of Knowledge. Cambridge: Cambridge University Press.

Echebarría, A. & Gonzalez, L. (1993). Social representations of power and democracy, attitudes towards elections and voting behaviour. Revue Internationale de Psychologie Sociale, 6, 21-46.

Elejabarrieta, F. & Wagner, W. (1992). El nivel de las teorías en psicología social. In D. Paéz, J. Valencia, J. F. Morales, B. Sarabia & N. Ursua (Eds), Teoría y método en psicología social. Barcelona: Anthropos.

Farr, R. M. (1992). Les représentations sociales: La théorie et ses critiques. Bulletin de Psychologie, 45, 183-188.

Farr, R. M. (1993). The Theory of Social Representations: Whence and Whither? Papers on Social Representations, 2, 130-138.

Festinger, L. (1957). A Theory of Cognitive Dissonance. Stanford, CA: Stanford University Press.

Flament, C. (1987). Pratiques et représentations sociales. In: J.-L. Beauvois, R.-V. Joule & J.-M. Monteil (Eds.), Perspectives Cognitives et Conduites sociales. Cousset: Delval.

Foon, A.E. (1986). Social psychology as science or history: An experimental approach. The Journal of Social Psychology, 126, 431-435.

Friedman, M. (1981). Theoretical explanation. In: R. Healey (Ed.), Reduction, Time, and Reality. Cambridge: Cambridge University Press.

Gergen, K.J. & Gergen, M.M. (Eds.) (1984). Historical Social Psychology. Hillsdale, N.J.: Erlbaum.

Gergen, K.J. (1973). Social psychology as history. Journal of Personality and Social Psychology, 26, 309-320.

Harré, R. (1979). Social Being. Totowa, N.J.: Rowman & Littlefield.

Harré, R. (1980). Making social psychology scientific. In: R. Gilmour & S. Duck (Eds.), The Development of Social Psychology. London: Academic Press.

Harré, R. (1984). Some reflections on the concept of "social representations". Social Research, 51, 927-938.

Harré, R. (1990). Explanation in psychology. Annals of Theoretical Psychology, 6, 105-124.

Holzkamp, K. (1986). Wie weit können sozialpsychologische Theorien experimentell geprüft werden? Zeitschrift für Sozialpsychologie, 17, 216-238.

Jahoda, G. (1988). Critical notes and reflections on "social representations". European Journal of Social Psychology, 18, 195-210.

Jahoda, M. (1989). Why a non-reductionist social psychology is almost too difficult to be tackled but too fascinating to be left alone. British Journal of Social Psychology, 28, 71-78.

Jodelet, D. (1989). Folies et représentations sociales. Paris: Presses Universitaires de France.

Miller, J.G. (1984). Culture and the development of everyday social explanation. Journal of Personality and Social Psychology, 46, 961-978.

Moliner, P. (1992). La représentation sociale comme grille de lecture. Aix-en-Provence: Publications de l'Université de Provence.

Moscovici, S. (1976[2]). La psychoanalyse son image et son public. Paris: Presses Universitaires de France.

Moscovici, S. (1984). The phenomenon of social representations. In: R. Farr & S. Moscovici (Eds.), Social Representations. Cambridge: Cambridge University Press.

Moscovici, S. (1988). Notes toward a description of social representations. European Journal of Social Psychology, 18, 211-250.

Moscovici, S. (1991). Die prälogische Mentalität der Zivilisierten. In: U. Flick (Hg.), Alltagswissen über Gesundheit und Krankheit. Heidelberg: Asanger.

Moscovici, S. (1993). The Invention of Society. Psychological Explanations for Social Phenomena. Cambridge: Polity Press.

Munro, D. (1992). Process vs structure and levels of analysis in psychology. Theory and Psychology, 2, 109-127.

Putnam, H. (1974). Reductionism and the nature of psychology. Cognition, 2, 131-146.

Putnam, H. (1988). Representation and Reality. Cambridge: MIT Press.

Shweder, R.A. & Bourne, E.J. (1984). Does the concept of the person vary cross-culturally? In: R.A. Shweder & R.A. Levine (Eds), Culture Theory. Cambridge: Cambridge University Press.

Smedslund, J. (1978). Bandura's theory of self-efficacy: A set of common-sense theorems. Scandinavian Journal of Psychology, 19, 1-14.

Smedslund, J. (1988). Psycho-Logic. Berlin: Springer.

Sperber, D. (1990). The epidemiology of beliefs. In: C. Fraser & G. Gaskell (Eds), The Social Psychological Study of Widespread Beliefs. Oxford: Clarendon Press.

Tajfel, H. (1981). Human Groups and Social Categories. Cambridge: Cambridge University Press.

Thommen, B., Ammann, R. & von Cranach, M. (1988). Handlungsorganisation durch soziale Repräsentationen - Welchen Einfluß haben therapeutische Schulen auf das Handeln ihrer Mitglieder (Organisation of Action by Social Representations – How do schools in therapy influence action of their members, German). Bern: Huber.

Vergès, P. (1987). A social and cognitive approach to economic representations. In: W. Doise & S. Moscovici (Eds.), Current Issues in European Social Psychology. Cambridge: Cambridge University Press.

Vergès, P. (1989). Représentations sociales de l'économie: une forme de connaisance. In: D. Jodelet (Ed), Les représentations sociales. Paris: Presses Universitaires de France.

von Kutschera, F. (1982). Grundfragen der Erkenntnistheorie. Berlin: de Gruyter.

Wagner, W. (1989). Social representation and habitus - Some problems in relating psychological with sociological concepts. Paper presented at the 1st European Congress of Psychology, Amsterdam.

Wagner, W. (1993). Can representations explain social behaviour? A discussion of social representations as rational systems. Papers on Social Representations, 2, 236-249.

Wagner, W. (1994a). Alltagsdiskurs – Die Theorie sozialer Repräsentationen (Everyday discourse – The theory of social representations, German). Göttingen: Hogrefe.

Wagner, W. (1994b). The fallacy of misplaced intentionality in the social representation–behaviour relationship. Journal for the Theory of Social Behaviour, 24, 243-266.

Wagner, W. (1994c). Fields of research and socio-genesis of social representations: a discussion of criteria and diagnostics. Social Science Information, 33, 199-228.

Wagner, W. (1995). Social representations, group affiliation, and projection: knowing the limits of validity. European Journal of Social Psychology, 25, 125-140.

Wagner, W., Lahnsteiner, I. & Elejabarrieta, F. (1995). How the sperm dominates the ovum—Objectification by metaphor in the social representation of conception. European Journal of Social Psychology, 25, 671-688.

Wolfgang Wagner
Institut für Psychologie
Universität
A-4040 Linz
Austria