Functional aspects of social representations

Book section

Functional Aspects of Social Representations

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Summary:

Social representation theory encompasses the question of social knowledge processing: its construction, relation with action, and evolution. Among other theories addressing the same problem, social representation is especially efficient for understanding the evolution *of social objects. Hereby, the theory is apt to investigate " hot " social problems, and has pragmatic applications for current societal issues.*

Social representations provide frameworks for group cooperation. This functionalist perspective enlightens some of their properties, namely: they are at the same time individual and collective; they contribute to group identity; they loop perception and action. The case of the social representation of " eating " *illustrates some of these points.*

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1. A patchwork of theories

Each scientific approach usually has a good degree of validity for the specific phenomena upon which it was originally designed; alas, its explanatory power decreases with distance from that original niche. This we all know: it would be crazy to explain air resistance with psychoanalysis. Therefore our scientific description of the world has to be a patchwork of theories.

Still, domains overlap, phenomena are intricate, and we quickly drift away when we try to encompass our object of study. Furthermore, as any specialist is naturally inclined to explain everything with the model (s)he masters [cf. Gould, 1980], crazy attempts where theories try to encompass alone phenomena out of their range are not so rare: Marxism and language, economics and government, biology and intelligence, etc. One sign that disciplines have gone past the limits of their natural niche is often the all-critical style of their approach and their limited use of empirical data.

This problem is especially salient for phenomena at the crossroads of several academic domains, because each domain tries to colonize its margin. And this is unfortunately the case for the phenomena addressed by Social Representations (SR) theory. SR theory specialized on a crossroads, at the articulation between individual and social, and between symbolic and real [Moscovici, 1982].

So, in the patchwork of social science, what is the SR theory's specific domain of validity?

SR theory, developed for the study of lay knowledge [Moscovici, 1961], addresses problems which are also of concern to other theoretical framework and research traditions. *Culture, rules, conventions, mediating structures, common sense, common knowledge, habitus, shared cognition, mental models, prototypes, pensée sauvage, archetypes, schemata, scripts, concepts*… are some of the categories with which the phenomena we call " social representations " have something in common. But the theory invented by Moscovici is especially relevant for describing and understanding " hot " social issues, - social objects in the making or in rapid change -. Why? Because its constructionnist perspective and concern with social function [Herzlich, 1972] is apt to take into account the feedback loop between social construction and individual thought and practice.

This concern for studying social objects " in the making ", and not as static constructs, draws the limits of SR theory's domain of excellence. Still, SR theory is more than a scientific crossroads between social and individual on one way, and thought and action on another. Social representations exist with a function of their own. I shall argue here that *cooperation* is the key problem, and I shall present social representations as solutions to this problem.

To clarify this question, this paper attempts a glimpse at the *functional* aspects of social representation, taking the cooperation problem as a starting point. First, the ecological value of cooperation among groups will be highlighted (section 2). Then, I'll argue that cooperation needs to be supported by some social objects, for which the main specifications will be given (section 3). I shall then illustrate with the example of *eating* the type of results an SR approach can bring (section 4).

2. Co-operation as an organic behavior

"Unaquaeque res, quantium in se est, in suo esse perseverare conatur[2]
[Spinoza, Ethics, III: VI].

"il y a un point singulier où la société se substitue à la nature, où l'évolution sociale prend le pas sur l'évolution bionaturelle. A cet endroit, les deux chaînes de réalité se séparent tout en se continuant."[3] *[Moscovici, 1974, p. 290]*

Entities cannot survive without some effort. We may call *things* the objects that survive by a passive effort of resistance to change, e.g. material objects like rocks or chairs; and *beings* those which *act* upon their environment to ensure their survival and development. Living organisms such as plants or animals, but also supraorganisms, like groups or organizations, are of this second kind.

Survival is, for all beings, a matter of linking perception of their environment to action, in order to perform relevant, efficient behavior. Beings that survive act in relevant ways: they adapt their action to the context. The link between context and action, seen from the being's perspective, is a perception/action loop, where the " meaning " of what is perceived depends on " what may be done " to or with it, what the environment affords [Gibson, 1986]. In other words, this loop includes an *interpretation* of the environment by the being.

This interpretation can be more or less complex. Simple organisms without memory exhibit rather stereotyped responses. The tick (*Tixus Ixodes*) standing on a branch will let itself fall if it smells butyric acid. This is an adapted action, since butyric acid is contained in the sweat of mammals, which are the tick's prey. The tick is therefore likely to fall on a mammal's hairy back, where it will dig its head in the hot skin, and pump nourishing blood, as well described by [Uexküll, 1934]. Here, interpretation is " hardwired " in the tick's biological organization; so is the coordination between its internal parts that produce the tick's behavior from the subject's interpretation of the phenomenal flow. Beings with memory may interpret signs in the world as signals triggering useful actions, based on their experience [Pavlov, 1932]. For instance, pigeons may pick a lever that supplied them with food in previous training.

Above this first level of selecting relevant perception/action loops and repeating the successful ones, some animals, especially among higher vertebrates, are able to plan and perform new behaviors, on the basis of *representations* of objects [Griffith, 1984]. Chimpanzees will pile up crates to reach bananas [Köhler, 1917], dolphins will invent new behaviors to obtain fish [Bateson, 1979] etc. They probably intentionally chunk internal " simuli " [Minsky, 1985] into simulated action chains, linking present situation to expected outcome. Whatever the process actually is here, interpretation and coordination are "software", but remain mostly at the individual level. Still, these individual representations bring an ecological advantage for those animals, inasmuch as they enable them to cope adequately with new objects and situations.

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[2] " Every entity, so far as it lies in itself, strives to persist in its own being. "

[3] " There is a singular point where society substitutes for nature, where social evolution takes the step to bio-natural evolution. At this point, the two chains of reality part but still continue one another "

The existence of mental representations among lower animals in the *scala naturae* remains controversial; still their existence among the most common and most extensively studied species of primates, *Homo Sapiens*, is generally accepted, and recognized as a decisive ecological advantage in everyday behavior. Here, individual coordination between sensory and action organs is mediated by individual representations.

Let us now look at the most complex organisms we know: human groups in the wild, self-constructed through evolution and history as composite sets of beings and artifacts: " people with culture ". Like other organisms, these groups are subject to the rules of survival. One peculiarity of groups is that action is distributed among participants, but that, unlike in individual beings, there is no physical nervous system which links these participants together to coordinate perception and action. Still, groups survive in time, and they have grown the functional equivalent of the reflex loops of microorganisms or of the individual mental representations of vertebrates. What are these social equivalents of individual representations? I argue: social representations.

Social groups turn out to achieve outstanding results when coordinating their action, surpassing individual performance. Pyramids, space shuttles, but also every action and artifact of our societies (e.g. ice creams cones, television, conferences) are the product of complex social coordination, aiming at common goals and distributing action among thousands of beings and things. Intentions and plans, building on previous acquaintance, are communicated; actions are executed locally by individuals or small groups and contribute to the emerging or maintenance of larger social patterns. Here, interpretation and coordination rely on mnemonic systems or objects that transcend the individual. Those *social constructs* are, through culture and education, projected or transcribed in symbolic forms, and reified in artifacts (e.g. tools, plans, monuments, documents, institutions).

In doing so, groups make available to individuals these symbolic representation systems which are the products of collective cultural development.[4] Therefore individual humans benefit of complex symbolic *thought* and reasoning, and may produce, as individuals, amazingly sophisticated behaviors involving even objects absent from the local context. Symbolic thought proved efficient, as it brought us to the top of the ecological chain.

As we see, those social constructs are the same as those that individuals use in their everyday life in their relation with the beings and things which constitute their social world.

These social objects, the constructs used by these groups and individuals to cope with their world collectively, communicating their intentions, negotiating and coordinating their actions, are what SR theory studies. They are socially constructed, but used by individuals also. So

[4] It may not be superfluous to state here that, as already noted by Freud [1917] there is no thought but social. Symbolic ability and the categories of mental life are, for each individual, basically social and learned through socialization. The other part of the loop, where individuals contribute to global culture, is essential in a historical perspective, but comes afterwards: cultural contributions are usually made by educated adults, not by preverbal children. There is no such thing as a non-socialized " person ". Even the more basic functions, such as eating, embed cultural aspects in their representation kernel: the meal [Lahlou, 1998], the cultural and moral determination [Douglas, 1967; Rozin, 1982, 1990; Fischler, 1990] of what is edible (frogs, dogs, larvae...), etc.

these constructs link the individual with the group, on one hand, and perception with action, on the other hand. Moreover, as we have seen, because their function is adaptive they are versatile and ever changing by nature.

To sum up, social representations are cultural organs shaped by social evolution; they have a pragmatic function of supporting group cooperation for a better survival. They are mediating structures [Hutchins, 1995] facilitating coordination of activity between humans, and between humans and things. Individuals inherit these organs from their group, and use them in everyday life. When we talk about a social representation of something (say "X ") by a group, we point at the mediating structure for coordinating action between group members for constructing and / or coping with "X".

Social representation research, as a branch of social psychology, emphasizes two aspects: articulation between the individual and the group in the *construction* of social objects; and articulation between the individual and the group in the *use* of social objects[5]. Social construction and communication are the main concerns for SR theory. The key figure is Moscovici's [1971, 1984] psychosocial triangle, {Ego, Alter, Object}: no object can be conceived without social perspective, in the eye of the Other, the socius ("Alter"); conversely, relations with the socius are mediated by objects. The psychosocial triangle provides framework for analysis of phenomena by re-situating "objects" in their social setting (look for the Socius!), and also by reminding the researcher that there are objects at stake in the relationship.

So one of the main distinctive traits of SR theory is that it knows that the phenomena it studies stand at a crossroads, and that they are not given nor static, but socially constructed and in continuous evolution.

3. The co-construction of groups and their objects

Let us now consider the problem of efficient coordination within a social group. Its members try to act together with a common intention. Cooperation has two aspects. The first is the pragmatic aspect: " what do we do". Individuals must use a reference system that contains the objects they perceive (the context) or try to construct (the intentions). The second aspect of cooperation is the social:" who are "we"" The fact that the group exists as such, does indeed share general frameworks, and is willing to cooperate, is a trivial but essential prerequisite to collective action.

3.1 Pragmatic aspect

The *pragmatic* (or cognitive) aspect covers technical coordination and labor distribution. It includes general frameworks such as time, space and taxonomies of objects; but also symbolic systems (e.g. language) which may describe possible arrangements of the objects in those frameworks and specify action. This pragmatic aspect links information to action.

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[5] The epistemic aspect (link between construction and use at individual level) and the historical aspect (construction and use at social level) have been less developed ; exchanges with cognitive psychology and cognitive science for the first, and with sociology and history for the last would certainly be fruitful.

A good cooperation tool should provide the individuals with guidelines for their own action, but in such a way that all those local parts indeed contribute to a single global, coherent process. It should, still, appear flexible enough to adapt to variable local contexts. We shall see that social representations meet these contradictory requirements.

3.2 Social aspect

The *social* aspect covers the existence of the group as such, and links the individuals to the group. It involves notions such as trust, motivation, identity and individual interests. Try to organize a bank robbery with a random sample of 10 individuals, and you will see that it is not so trivial: sharing the pragmatic reference system and understanding the language is not enough for cooperation. This social precondition has strong implications for the *construction* of social objects and coordination modes. It accounts for many traits of the social constructs that we may call meta-pragmatic: that is, not specified by the instantaneous necessities of efficient action, but rather by the conditions of possibility of this action in a collective framework. This is where the theory of social representations becomes necessary, while pragmatic aspects could be more or less dealt with by classical cognitive theories.

3.3 Co-construction

The two aspects are not independent. Their interaction during history construes both groups and objects as cultural entities, and interweaves them. Empirically, the group becomes defined by the possibility of communication between its members, and concerted action based on its internal social labor division. It is a chicken and egg problem. People who cooperate often become a group[6]; and it is easier for a group to cooperate. This link between action and identity is well expressed by the subjective notion of " participation " [Levy-Bruhl, 1951] which encompasses both aspects.

But within the group, and towards the object, people occupy different positions. Cooperation may include negotiation or conflict. A given state of things at one moment (e.g. social rules, distribution of property, ethics, production processes, political system) is the result and reification of compromise and " rapports de force ". The construction of the social representation of an object is a series of fights and influences, a mixture of propaganda, propagation, and diffusion, and also of contrasted practices, as Moscovici [1961] demonstrated for psychoanalysis. What appears ex-post facto as static tradition may hide a

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[6] Cooperating, even on accidental basis, contributes to create a group. This is empirical evidence, of which the reasons are many. One may be that group identity builds on common history. Also, for individuals within the group, there is often a positive feedback between membership and activity, which is mediated by identity. Social psychology has shown how role and status, which are identity constituents, are linked with the labor division. The role of an individual is the set of behaviors others expect from him or her; and his or her status is the set of behaviors this individual can legitimately expect from others [Stoetzel, 1963]. In other words, social identity is linked with the individual's position in the social labor division. Individuals depend upon objects and upon the group for their own definition.
On the other hand, it is obvious that objects depend on the group for their definition. Even objects, which have an identical name, will be in fact different between groups: we already mentioned " food ", an apparently unambiguous functional category, which still may differ from one group to another. The differences may even be more striking with objects or categories like gender, kin, god, health, etc.

dynamic equilibrium between conflicting interests. Change one thing, and you jeopardize the arrangement of many other beings and things. The structure of social objects is often a subtle compromise that enables each user to see it as acceptable, although users' interpretations may differ from one another.

Any object will be a stake, an issue, or a concern for some sets of individuals whose activity or interests are involved with this object. There is no neutral object, for its shape and properties will matter in different ways to different populations, and might generate conflicts, and negotiations. An adequate approach to the problem must consider the various positions of actors in respect to the organizing principle of their relation [Doise, 1985, 1989; Palmonari & Pombeni, 1984; Clemence et al. 1994]. SR theory faces this problem, and accepts that object construction is a result of interaction between actors with different social, historical and cognitive perspectives: this is why they are essentially dynamic objects.

4. Eating for example

I shall not enter further into theoretical and epistemological discussions. These aspects have been discussed with talent by my colleagues, in the course of internal critics and discussions with researchers from other academic traditions [see Jodelet, 1984 for a global picture, Moscovici, 1989 for a history; Jodelet & Ohana, 1997, for a bibliography]. Although I believe that SR theory presents unique and immensely interesting epistemic properties, I found that one major interest of this theory is its ability to deal with *real* societal issues. As the proof of the pudding, here is an example, the SR of " eating ", upon which I shall try to give a " taste " of how SR approach can accommodate phenomena.

Eating is a basic need [Maslow, 1943]. It is also a societal one, although the terms of the problem may vary between cultures. It is an everyday behavior, and it is also deeply invested with economic stakes. Specifications of the food industry and service rely on what industry knows of consumer's needs and representations. Finally, it is one of the seminal objects of social psychology [refer Lewin, 1943]. Considering the immense literature on food, can SR theory bring something relevant and new?

4.1 Method

Our study first evidenced the structure of the representation by analyzing the content of two different sources of empirical data. The first material is of an usual type in SR research [e.g. Rosa, 1988]: free word association on the word " eating " (" manger "), of 2000 French adults (a representative sample of continental France), in face to face at-home interviews.

The other is extracted from a cultural source, a classical reference dictionary (Le Grand Robert, French equivalent to the Webster). This dictionary provides, with each entry, a list of associated terms (such as synonyms, analogs...). The associated terms of " manger " were cropped, and then the associates of these associates, yielding 588 associates of " manger " in the French language. The extensive definitions of the 588 entries obtained were then copied, yielding a corpus of about 500 pages.

We therefore obtained two corpuses of text: *associations by live human respondents, and associations by a cultural source*. The principle of the method is identical for both sources: the source is stimulated with the name of the object, and induced to produce statements relating to that object.

Both corpuses were submitted to statistical analysis of textual data for segmentation and content analysis. We used ALCESTE [Reinert, 1986, 1993], a sophisticated segmentation software which cuts the corpuses into small text units (answers, or sentences), and then clusters together text units with similar lexical content, into classes. Classes are constructed on purely statistical criteria based on word stem co-occurrence in text units. Each class therefore gathers text units with similar lexical content. The software provides the researcher with the typical words and sentences of each class, for interpretation (cf. infra fig. 1 to 6.). Each class was considered as a basic element of the SR, following validated interpretation procedures [Lahlou, 1996a].

4.2 Results

Interestingly, both sources (humans and Robert) yield a similar structure of 6 elements: *Desire, Take, Food, Meal, Filling-up,* and *Living.* Individuals indeed refer to a single, cultural, paradigm. We shall come back later to this important point.

The difference is that one of the elements (*Take*) is almost absent in the humans' associations, and another (*Filling up*) takes different connotations (*quantitative* equilibrium in Robert, *qualitative* in humans). Others stay very much the same, including their respective size.

Classes from the dictionary analysis are shown in Figures 1 to 6. The top list of the classes' typical lexical roots are presented, straight as they come from the statistics listing. A lexical root is typical of a class if it appears significantly more frequently in the textual units of that class. Units may be truncated, since the software considers together the lexical variants of each root (e.g. *désir*+ stands for *désirer, désir, désirant, désirs, désireras*, *désiré*, etc.). More loosely said, each class is characterized by the words that are typical of the discourse it contains; by analyzing those words one can interpret the content of that class. E.g. class "DESIRE" is made of desire, hunger, appetite, thirst…

Figure 1: DESIRE[7] désir+, faim, appétit+, soif, satisfaire., envie+, convoit+, assouvi+, rassasi+, avidité, apais+, dévor+, avide+, affame+, cupid+, content+, besoin+, mourir., arde+, curiosité+, excit+, yeux, passion<, regard+, tendance+, attrait+, glouton+, éprouve+, amour, sexuel+, instinct+, honneur+, avoir, brul+, moder+, dévorer, soul+, être, aval+, inclination+, creve+, apéritif+, goulu+, creus+, proie+, colère, extrêm+, recherche+, aspir+, abstin+, friand+, sensation+, presser., sentiment+, vouloir., inf+, claque+, argent+, sa, physique+, joi+, viv+, ivre+, naturel+, force+, porte<, ses, plaisir<.

(desire, hunger, appetite, thirst, satisfy, envy, lust, assuage, satiate, greed, etc.)

Figure 2: TAKE touch+, attrape+, prendre., main+, nez, attaqu+, embrass+, baise+, joue<, mordre., ventr+, gonfl+, qqn, saisir., parole+, battre., lèvre+,

[7] English translation of the first lexical items of each class is provided in bold font.

ouverture+, doigt+, bras+, ball+, navire+, pied+, serre+, sur, fondre., entrer., avec, ouvrir., se, tirer., claque+, coup<, aspir+, tomb+, lui, langue<, visage, jeter., partie<, tenir., passer., laiss+, dent+, mouvement+, bouche+, voir., devant, ferme+, arme+, porte<, bout<, contre, arrêt+, gueul+.

(touch, catch, take, hand, nose, attack, embrace, kiss, cheek, bite, stomach, bulge, smbdy, seize, speech, fight, lip, orifice, finger, arm, etc.)

Figure 3: FOOD viande+, pain+, aliment+, fruit+, pat+, légum+, animal<, cuire., tranch+, bouill+, plant+, couper., salad+, lait+, dent+, morceau+, coût+, conserv+, rat+, digest+, porc, mange+, poisson+, sec+, fromage+, gras, végétal+, soup+, boeuf+, nourrit+, sucre+, comestible+, suc+, beurre+, tartine+, liquide+, herb+, boîte+, saucisson+, trempe+, nourr+, bouche+, maigre+, épaiss+, boire., gibier+, fourr+, rumin+, oiseau+, frais+, grain+, grill+, chair+, vert+, chien+, petit+, boul+, prépar+, cuiss+, feuill+, gâteau+, croût+, potage, aval+, croqu+, fleur+, fine+, boisson+, chaud+, seche+, substance+, froid+, garni+, oeuf+, orifice+, taille+, point+, gros, produit+, arbre+.

(meat, bread, food, fruit, pasta, vegetable, animal, cook, slice, boil, plant, cut, salad, milk, tooth, piece, cost, canned etc.)

Figure 4: MEAL repas+, table+, restaur+, plat+, dîne+, cuisin+, déjeuner, invit+, serv+, buffet+, vaissel+, servir., cantin+, festin+, couvert<, fête+, café+, menu+, noce+, nappe+, hosti+, gastronom+, soir+, heure<, assiette+, communi+, coll+, mange+, ensemble, thé+, convive+, soup+, tasse+, gala+, récept+, jour+, entrée+, dessert+, offic+, serviette+, cher+, spécial+, paye<, prépar+, léger+, carte+, pièce+, on, frugal+, général+, nuit, mettre., boisson+, région<, cours, verre+, hôte+, milieu+, ou, grand+, après, chez, récipient+.

(meal, table, restaurant, dish, diner, cook (kitchen), lunch, guest, serve, etc.)

Figure 5: LIVING connaître., bon+, sentir., aim+, agréable+, emploi+, goût+, possed+, vivre., est, je, vie, éducation, appréci+, ne, idée+, joui<, femme+, esprit+, juge<, il, beau+, âme+, amer, apprendre., suivre., moral+, riche+, social+, vit, pas, caracter+, que, ressentir., savoir, société+, cet, charmant+, corromp+, accueil, dieu+, exquis+, coeur, ouvrage+, valeur<, sentiment+, c'est, vous, assimil+, adopt+, passion<, affect+, ai, musique, sens, ador+, habit+, intére<, nature, instinct+, homme+, qualité+, travail+, verbe, inf+, fill<, ce, humain+, recevoir., enfant+, me, chose+...

(know, good, feel, love, nice, use, taste, possess, live, be, I, life, education, appreciate, no, idea, enjoy, woman, mind, judgement, he (it), beauty, soul, bitter, learn, follow, moral, rich, social, etc.)

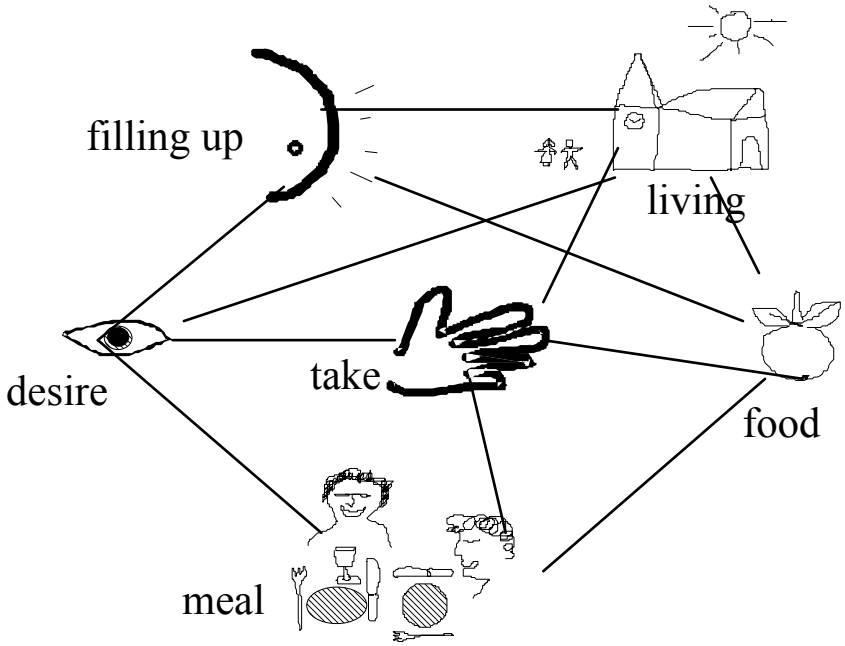
Figure 6: FILLING UP rempl+, épuise+, encombr+, ronge+, sature+, consum+, détruire., approvisionn+, sujet+, absorb+, empli+, imbibe+, vide+, feu, plein+, farci+, bourr+, chose+, complet+, abreuv+, fatigue+, fortifi+, imprégn+, voiture+, dévorer, consomm+, n, placer., garni+, occup+, eau, entier+, gonfl+, rendre., fonction+, brûl+, pron+, jusque, gorge+, discours, temps, user., article+, accompli+, trop, air, abstrait+, ses, marchand+, soul+, pass+, dissip+, compl+, son, force+, sang+, truffe+, dépenser, vill+, entam+, quantité+, se, fer, dévor+, muni+, dépense+, perdre., tout, tête, désign+, coeur, fort+, livre+, marche+, racine+, ravitaille+, charge+, bouff+, anal.

(fill up, exhaust, congest, gnaw, saturate, consume, destroy, load, subject, absorb, fill, soak, empty, fire, full, cram, stuff, etc.)

As one may notice, this social representation contains obvious common sense (the behavioral sequence of food ingestion). But it also contains social (Meal) and ethical elements (Living). Social representations always exhibit this " obvious ex post " characteristic, for they *are* common sense. Still, the actual number of elements, their nature and organization are not necessarily trivial, and may even differ from explicit didactic sources as dictionaries or manuals. Therefore the SR approach, using the natives psychological material, provides us with a description at a level of granularity appropriate for human thought description: no neurons, no scientific constructs; just plain natural thought, common sense. SR theory has no hegemonic claim to give *the* right description of how people think or act[8], but it strives to express it at a level as close as possible to the subjective perspective of lay persons.

Of course, this is only a *lexical* projection of the social representation, limited by our linguistic investigation method. To remind the reader that the elements have emotional, motor, and proprioceptive dimensions, I prefer to represent the elements of the social representation " non verbally " in the following figure:

Figure 7: A subjective view of the elements of the social representation of " eating " in France



4.3 Discussion

Now that the framework is set, let us look at some interesting points. Space being limited, I shall focus on the following questions: (a) representation and action, (b) social and individual representations, (c) social values in representation. More details can be found in [Lahlou, 1998]

[8] Neurological, economic or behaviorist descriptions may be more relevant for other purposes.

4.3.1 Representation and action: from structure to process

What is the link between representation and behavior? Some of the SR elements may be motor (e.g. *Take*), enabling the representation to unfold as a pragmatic script, in context.

Let us examine a human subject, inhabited by the social representation we just described. Remember its elements are associated in the mind, as our free association experiment just showed. In a context where hunger (*Desire*) is present, if acceptable *Foods* are present, by the virtue of association the other elements of the representation will emerge. The representation may then naturally unfold into the trivial biological script (*Hunger/Take/Food* (until) *Filling-up*); but this will respect the formal behavior syntax of the relevant *Meal* according to local context (e.g. breakfast, snack, etc.). This script may be acted in context, since the Take is a motor element; and will be applied to the actual *Foods* present in the context. The domain of application of social representations is not only the mind, but also the everyday world.

Note that a relevant script was produced here by an individual subject using the elements of the *social* representation itself, as empirically determined (and this is what makes this discussion non-trivial). Relevance in context is ensured by the fact that each element of the SR is a paradigm in itself. For example Food is a paradigm of edible objects which may be encountered (with avatars[9] from " Apple " to "Zest "). The various avatars of each paradigm enable one to perform adequately by adapting the general schema to the local context. With the same social representation of eating, a given person is able to perform an adapted yet efficient sequence in very diverse situations, by choosing the relevant avatars of the required elements in the local context. Hence, a local application of the SR might be

Faim / grignoter / fruit / buffet / santé

hunger / nibble / fruit /buffet /health

which accounts for the sequence "nibbling a fruit in a cocktail party because it's the only healthy food available on the buffet"

soif / aspire / boisson / abreuve

thirst / sip / drink / quench

which may be described as " taking a drink to quench one's thirst ". Elements in the context may be recognized as local instances ("avatars") of the paradigm, and/or arguments in performing the script[10].

Those scripts depend not only upon circumstances, but also upon groups. Free association on " eating well " -a prompt designed to elicit pragmatic association -, was asked to another

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[9] We call " avatar " a local instantiation of the social representation, as encountered in the world or in discourse. E.g. "this professor, Moscovici" is an avatar of the social representation of "the professor". In Hindu religion, avatars were the forms of embodiment of Vishnu on earth. Although avatars may differ, they are all considered incarnations of the same entity. As a set of all its possible avatars, the social representation is a paradigm.

[10] I use the term " script " here in the vague sense of " action program ", and not in specific reference to one of the many specialized meanings given to this term by various authors the psychological or cognitive science literature.

sample, of 1600 French adults. We obtained eight typical scripts or action principles. Some groups favor certain scripts. The scripts obtained are only combinations of some elements of the SR of eating. Here are 3 examples: " To eat what I like " is made of *Desire/Take*, while " To eat one's fill " is *Take/Filling-up*. " (To eat) balanced and healthy " is made of *Take/Filling-up/Living*. This last script is more frequently attested in women of our sample, while "To eat one's fill" was more found in younger respondents.

Social representations often display this amazing versatility: people can act in opposite ways while still using the same SR framework, by focusing on some aspects only. As we can see, natural evolution shaped social representation with unexpected properties, yet functional[11]. Their versatility enables communication, compromise and cooperation between parties with different attitudes (" What You See Is What You Fancy" effect), but also flexibility in individual use (" Swiss knife " effect), although not *anything* is possible. All subjects possess all the elements in their individual representation, even if they do not use them on an everyday basis at a given period. Still, the other " blades " might be useful at another period of life, or in unusual conditions, e.g. adult married persons report coming back to bachelor's minimal cooking practices when their mate and children are away.

Notice how the empirical structure of the SR of eating performs the contradictory requirements of coordination mentioned in section 3.1: providing individual guidelines for behavior, adaptable to local contexts, and still that can be aggregated with others to co-produce social events (meals).

4.3.2 Individual and social representation

We assume that social representation is a species of individual representations, in the biological sense. Social representations are to individual, mental, representations what a species (e.g., Dogs) are to a specific individual (e.g. *this* dog, " Rex "). A social representation is a population of individual representations, which are scattered over a population of humans[12]. Which comes first, the social representation or the mental representation? That's a chicken and egg problem: What comes first, the dog, or the dog species? They are co-constructed, and hence co-dependent. There is no *tabula rasa* in cultural issues, and the social representation is such an issue

What we (observers) call the pattern of the SR is the set of elements *we* perceive as common to the population of individual avatars (say, like a Dog -the species- has four legs, one tail etc.). In a sense, the SR is a construct of the observer, scientist or naïve layman of the street. But it is more than just an arbitrary set, because individual representations of the same object do have genetic and functional relations with one another: they are reproduced (by learning) from one another, and they crossbreed in the process of communication.

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[11] Not every actualization of SR is efficient. The magic though about food, including the incorporation principle [Rozin & Nemeroff, 1986; Fischler, 1990] seems to be an inappropriate, but frequent, application of the social representation of eating [Lahlou, 1998].

[12] And, as we saw with the example of the dictionary, representations may inhabit other media than human beings.

This population of representations is distributed over the population of people. To use Moscovici's expression, representations " inhabit populations ". This enables coordination. When two people, Ego and Alter, want to coordinate upon object X in a specific situation, they can communicate by referring to the social representation of X, through their own individual representations of X. As members of a same group, they assume to share the same social representation. And as we saw, they indeed do share at least the general framework, if not details.

Defining social representations as a *population* of avatars is more than a metaphor. As said earlier, individual representations are actually generated by the reproductive propagation of other avatars of the same representation, like as in biological species [Lahlou, 1996b]. Avatars may undergo adaptive mutations, which will be diffused over the population when they bring a selective advantage; slightly different phenotypes may develop in some sub-populations to adapt local conditions. In other words, *it is because social representations are populations of avatars confronted with local pragmatics that they are fit for pragmatic purposes; it is because the local avatars of SR are individual representations that social representations are a tool for coordination of action in human groups.*

Now, let us look at " eating " again. First, consider the great similarity between what is obtained from a cultural source and from individuals, and between individuals. Individuals indeed refer to a single, cultural, paradigm. This was predicted by the theory, but empirical evidence is always welcome.

But individual representations vary slightly from group to group, according to local specificity. In another survey, we asked a representative sample of the French population (2000 adults, face to face interviews at home) for free association on " eating well ", and found marginal differences by age and gender. High intake of energy and social content of the meal are more salient in people under 30, while those 60 and over make more associations on health and food limitation. Women insist on balanced and light food, while men mention rich food more often [Lahlou, 1998].

Figure 8: Items significantly over-represented in free association for " eating well " among inhabitants of France.

Younger: bouffe (grub) copains (pals), restaurant, couscous, dessert, gâteau (cake)

Elder: peu (few), sans (without), excès (excess), modérément (moderately), raisonnable (reasonable), cholesterol

Women: équilibré (balanced), légumes (vegetables), sain (healthy), laitages (dairy products), vitamines (vitamins), kilos, lait (milk), varié (varied)

Men: bon (good), foie gras (pâté), qualité (quality), banquet (feast), vin (wine), pomme. de terre (potato), français (French); choucroute (sauerkraut), sauce, frites (French fries), charcuterie (delicatessen) copains (pals), steak, canard (duck), restaurant, boeuf (beef)

Subjects hereby reveal how they have internalized some widespread sociological norms and constraints (seniors should restrain on food, women should take care of their body, men should be " bons vivants " etc.). This link between practice involving some specific elements

of the social representation and the salience of those elements in the representation of the population involved has been shown many times [e.g. Guimelli, 1994]. Here, representation appears as a biological organ, of which certain parts would grow more salient with use, like a tennis player may grow a larger right arm.

4.3.3 Social values

Another function of the social representation is to ensure the existence and maintenance of the group (cf. supra section 3.2). Structural research showed that social representation can be described as an organized set of basic elements of two kinds, with a hierarchy [Abric, 1984, 1994a & b]. The " noyau central " (kernel) contains essential elements; in their absence the subjects cannot recognize the object [Moliner, 1996]. For instance, a " company " must make profit [Flament, 1994], members of an " ideal group " must be friends, etc. Abric highlights that some elements of the kernel are values, and insists that what makes the group is the sharing of those values. By their very nature, social representations refer to some organizing elements that characterize the group. Note that attitudes towards these values may vary in the group, but still they stand as landmarks structuring the communication framework.

In our example, " eating ", some elements will carry values that are fundamental for the group. Here, just the right satisfaction, without excess, as balance between not enough and too much, which constitute the *filling-up* element, is one of the basis of good social behavior, greed or undue asceticism being equally stigmatized in French society [Charuty, 1991]. Another element, " Living " is made almost only of moral values, as assessed by the typical terms: *good, love, nice, taste, live, be, life, education, idea, enjoy, judgment, beauty, soul, moral, social, etc*. (the full list includes *God* and other strong values). Ethnographic studies show how much eating practice is linked with social cohesion; even outside France, there are few social events without public food ingestion. Social identity includes eating habits. The role of " eating " as a social cement has been integrated in the very structure of the SR of " eating ". This ensures that every individual or group practicing " eating " will regenerate and maintain the group as such with those in-built guidelines. More generally, every social representation includes social dimensions that make the object a " fait social total ".

As usual, structure sustains function, and function shapes structure; this makes no epistemological problem in SR theory.

5. Conclusion

The SR domain is an agitated crossroads: the social interaction between beings and things, and it is pretty uncomfortable to dwell in a crossroads. I have tried to show how the two interfaces which social representations contain (perception/action and individual/social) are connected by the very function of social representations as a cooperation instrument for social groups.

This functional approach complements the structural approach widely developed in our community. It also opens research perspectives. Most objects studied previously by SR theory are societal issues, and, as we have seen, this is where the theory is most efficient. But

considering social representations as cooperation tools suggests that SR theory might also be quite effective for studying collaboration at the scale of smaller communities, for instance in professional settings.