

Psychology as science of the *explanandum**

La psicologia come scienza dell'*explanandum*

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Riassunto

L'articolo fornisce gli argomenti fondamentali in supporto di una psicologia modellistica e guidata dalla teoria. Una psicologia guidata dalla teoria è un tipo di psicologia che rinuncia a quei concetti definiti in termini di esperienza fenomenica, ma modella dall'interno del proprio linguaggio oggetti e categorie che assume come obiettivo e mezzo.

Rendere la psicologia una scienza guidata dalla teoria l'identificazione di senso comune dei fenomeni di interesse assunti direttamente dalla vita quotidiana (ad es. drop-out, dipendenza) con le loro definizioni modellistiche - in ciò consiste l'idea di una psicologia come scienza dell'*explanandum*.

Ne *Lo Stato delle Cose*, il Director Munro, dice - "La vita è a colori, ma il bianco e nero è più realistico". Egli ci offre l'intuizione che il fulcro dell'esperienza umana non è esperienziale, per cui bisogna distanziarsi dall'esperienza per astrarsi e poter coglierne gli aspetti essenziali. Allo stesso modo, rendere la psicologia una scienza dell'*explanandum* richiede un' astratta forma di conoscenza che è ben lontana dalla concretezza dell'esperienza della vita quotidiana - una psicologia che è in grado di vedere gli oggetti in bianco e nero.

Come dimostrano le scienze più sviluppate, questa distanza non è il problema ma la soluzione: è proprio necessario per andare oltre le apparenze per cogliere il fulcro dell'esperienza umana.

Parole chiave: *psicologia teorica; processi di significazione; scienza idiografica; scienza guidata dalla teoria.*

Abstract

The article provides the basic arguments in support of a modelistic, theory driven psychology. A theory-driven psychology is a psychology which gives up those concepts defined in terms of phenomenical experience and models from within itself objects and categories it assumes as target and means of investigation.

To make psychology a theory-driven science means to substitute the commonsensical identification of target phenomena taken directly from daily life (e.g. drop-out, addiction) with the their modelistic definition - in that there is the idea of psychology as science of the *explanandum*.

In the film *State of Things*, Director Munro states that - "Life is in colour, but black and white is more realistic". He gives us the insight that the core of human experience is not experiential and therefore, one has to distance her/himself from experience in order to abstract and grasp what is essential of it. In the same vein, to make psychology a science of the *explanandum* requires an abstract form of knowledge quite far from the concreteness of daily life experience - namely, a psychology which is able to see objects in black and white.

As more developed sciences show, such a distance is not the problem, but the solution: it is just what is required to enable science to go beyond appearances and grasp the core of human experience.

Key words: *theoretical psychology; sensemaking; idiographic science; theory-driven science.*

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“Life is in colour, but black and white is more realistic”
(Sievernich & Wenders, 1982/1983)

Overview

Psychology suffers of common sense

Psychology addresses phenomena defined by common sense.

Consider the format of psychological scientific knowledge in the terms of the following generic relation:

$$P = R(C_Y) \quad (1)$$

where P stands for the phenomenon to be known (i.e. the *explanandum*, what has to be explained) and C_Y for the psychological (set of) construct(s) mobilized in order to say something of psychological about the phenomenon (i.e. the *explanans*, what explains); R stands for the (usually empirical) linkage built between the phenomena and the construct. Thus, (1) states that the psychological scientific knowledge consists of a relationship that is set between the phenomenon that has to be known and the psychological construct; and this is the same to say that the phenomenon is explained as a function of the psychological construct. Needless to say, there are a variety of functions R in terms of which phenomena and construct may be linked. Causality is one of them. In such case, P is considered as the effect of C_Y , and their linkage acquires the meaning of explanation; covariation, interpretation, functional explanation, modelling are other kinds of R .

Consider some classical psychological theories. The decay of memory (P) is the effect (R) of the new information's interference (C_Y). The intelligence (C_Y) correlates (R) with positive scholastic outcome (P). The therapeutic alliance correlates (R) with positive psychotherapeutic outcome. The social representation (C_Y) has the function (R) of making it familiar the unfamiliar (P). Outgroup aggressiveness (C_Y) has the function (R) of defending in-group cohesion. And so forth.

These examples, even so different among them, share an aspect: in all cases P is defined outside Psychology, in terms of common sense - one has not to study psychology to understand the meaning of notion like decay of memory, thinking, efficacy of the school career and so forth. Everyone learns to use these notions just participating to daily life.

Thus, Psychology seems grounded on a division of epistemic labour with common sense. It leaves the task of defining the objects of knowledge to daily language for concentrating its efforts on the development of the scientific constructs required to explain (*latosensu*) such objects. In this sense, Psychology appears to be a *science of the explanans*: a system of knowledge aimed at producing instances of C_Y enabling to understand instances of P that are independently defined by common sense.

This shows most emblematically the psychology's tendency to consider itself a science studying commonsensical phenomena lies in the sectoralisation of the discipline in terms of domains as defined by social-cultural categories and systems of activities: organizational psychology, school psychology, sport psychology, health psychology, psychology of tourism and so forth. The point here is not so much the differentiation in itself, but its scope, the epistemological implications of its use: sectoralisation is not seen as a conventional device to be used to identify a class of professional figures that have become homogeneous due to their shared professional context; rather, the sectors are conceived as autonomous areas of psychological discourse that are characterized by peculiar objects and methods of enquiry. Now, the fact that an area of psychological discourse is defined in terms of a certain sector of the social system entails clearly that the discipline assumes as objects phenomena as they appear through the eyes of the common sense, rather than in terms of constructs enrooted in the scientific theory.

Addiction is an example of this way of constructing the psychological object: addiction is not a natural phenomenon but a social construct; a model of social practice generated by the dialectic between individual ways of acting and historically determined forms of institutional control. As consequence of such a dialectics, rather than as result of a scientific differentiation, some patterns of action are classified as addiction (use of drug, pornography, internet, but also high degree of commitment on work), while other not (consume of art, reading, supporting own soccer team, a very strong romantic relationship with own partner, and so forth). In sum, addiction is not a psychological construct, but a phenomenon of reality, defined pre-scientifically. Psychology is called for explaining it, not for defining it.

The limitations of sectoralisation have been pointed out by all quarters (*inter alia*, Carli, 2002). I myself have criticised it with particular attention to the meaning to be given to the idea of scholastic psychology (Salvatore, 2003). Recalling this discussion may help to further clarify the issue at stake. In short, scholastic psychology cannot be interpreted as a specific, autonomous domain of psychology because the school is not a systematic domain endowed with psychological specificity. What happens in schools is obviously of interest to psychology; however, the phenomena the psychologist finds in school do not acquire psychological meaning by the fact of occurring in this context. For instance, the learning processes that take place in school do not follow different forms of organisation from other learning processes that may occur in other human domains.

The weak status of the psychological knowledge

I maintain that the fact that Psychology works as a science of the explanans is the fundamental source of its weakness, of its incapability of producing scientific novelty, of the *cul-de-sac* of the empty empiricism in which it is encapsulated (Toomela & Valsiner, 2010).

This criticism is the necessary corollary of the recognition of the semiotic nature of the psychological object. Psychological phenomena consist of meanings and connections among meanings. As Smedslund (1982, 1988, 1992, 1995) highlighted, this means that in the case of psychological phenomenon the relation between *explanandum* and *explanans* is given uphill, deposited in the common sense. Consequently, connecting the phenomenon with the construct has the epistemic value of being an operation of making pertinent/explicit an area of meaning already present in the cultural environment. To say this in another way, *Psychology ends to work as the descriptor of the implicit linkages being active within common sense*.

Take a person playing roulette and winning a certain amount of money. It is evident that one may not consider winning as the effect of playing. Winning is already inscribed in the meaning of playing roulette. It is one of the scenarios entailed in such a script. Therefore, one cannot say that playing causes winning, in the same way that one cannot say that the term “dog” causes “being the best friend of the human being”. Winning, akin “being the best friend of the human being” are definitions/pertinentizations of their respective argument (playing roulette and dog, respectively). The former derives from the latter. The same kind of semiotic linkage qualifies most (if not all) psychological phenomena, when the latter are defined by common sense. Consider the conceptualization of school drop-out (*P*) in terms of student’s lack of motivation (*C_γ*). Well, actually this is not an explanation, for the very reason that the lack of motivation is not an independent agent coming from outside and producing drop-out; rather it is part of the pragmatic definition of drop-out, and vice versa. The same consideration can be applied to the other examples of theories above mentioned. Interference of new information does not cause decay; rather, the decay of previous information is part of the meaning of interference— interference is the effect that something produces on something else with which the former enters relation. Intelligence is en-

tailed in the notion of positive school outcome; it is not that the student produces good scholastic outcome because of its being intelligent. Rather, being intelligent means succeeding in school (as well as in other intellectual activity). Again, once one considers that the efficacious of the psychotherapy logically entails to assume it as a goal oriented social activity, then the collaborative attitude of the participants has to be seen as part of the meaning of the concept of psychotherapy, entailed in the very (even if sometimes implicit) qualification of it as goal oriented. Therefore, to say efficacious psychotherapy already means therapeutic alliance; where there is not therapeutic alliance, for definition there is failure of psychotherapy; consequently, the linkage between psychotherapy and therapeutic alliance is not matter of contingency to test empirically, but matter of reciprocal implication in the definitions of the two terms. Similarly, the very notion of representation means to change something that before was unrepresented/unknown (unfamiliar) in something that now is part of what is known (namely, familiar). Finally, the outgroup aggressiveness entails logically and semantically - not factually - the reference to the ingroup; this is clear if one considers that any act entails a subject acting it; therefore, to say that the outgroup aggressiveness causes the ingroup cohesion is the same to say, put, that running causes the runner or the observation causes the observer.

In sum, the idea that many excerpts of psychological knowledge are no more than (sometimes sophisticated) truisms has to be taken seriously in consideration. It is worth noting that this situation does not concern in a generalized way all the field of knowledge. In the case in which the (phenomenon referred by the) construct has a factual relationship with the *explanandum*, the mapping of such a relationship is not a truism. With factual relationship I mean that the *explanans* construct is independent from the *explanandum*, namely that it does not entail semantically a relationship with the *explanandum*. For instance, take the relationship between gas' pressure and temperature.

The definitions of both concepts do not entail any kind of reference to the relationship with the other term. Therefore, the concept of pressure is independent from the concept of temperature. A further example can help distinguishing factual and semiotic relationship between phenomenon and explicative construct. Take a person that is smacked. In reason of that, the person feels pain on her cheek and deeply annoyed with the smacked. Well, these two feelings are in different logical relationship with the slap subjected. The pain is the effect of the slap: there is no semantic relationship between the two terms – the meaning |being smacked| does not hold the meaning of |to feel pain|; thus the relationship |being smacked| - |to feel pain| is factual. Differently, |being smacked| and |to be annoyed with the smacker| are semiotically linked: the latter is entailed in the socio-pragmatic significance of the former act. To smack someone is a specific sign, different from other similar act (kicking, punching...) and similar to other different act (e.g. spitting), having a specific repertoire of meaning: punishment, offending, expressing own anger, and the like. The semiotic valence of the relationship between being smacked and feeling oneself annoyed is shown by the fact that in some country to punch and to smack a public official are *defined as* two different crimes: respectively blows and offences to public official. And it is obvious that law does not identify the effect of punches and smacks according to the Psychology of the public official; rather it draws it from the commonsensical definition of these two pragmatic signs.

The consequence of the misrecognition of the semiotic nature of the linkage between P and C_Y has had relevant negative impact on the epistemic status of psychological knowledge. It has made psychological statement pseudo-empiric (Smeslund, 1982, 1988, 1992, 1995) and has produced the deterioration of the scientific status of its language, step by step transformed in a replication of common sense.

Pseudo-empiricism: Psychology to the discovery of the hot water

Psychological statements do not go beyond what is already known or however entailed implicitly within common sense. This can be expressed in the terms of a second generic relation:

$$\text{When } P = S(CS) \quad (2),$$

$$\text{then } C_Y = S(P) \quad (3)$$

Namely, in the case P is a semiotic function of common sense - $S(CS)$ -, namely it is defined in terms of naïve language, the psychological construct C_Y is a semiotic function of P , namely it is implicated in P .

Now, if one substitutes (2) in (3), it is obtained that:

$$\text{when (2), then } C_Y = S(S(CS)) \quad (4)$$

that may be rewritten as

$$C_Y = S'(CS) \quad (5)$$

with (5) to be read that when the psychological phenomenon is defined in terms of common sense, the psychological construct is function of common sense too.

One can have a prove of this by looking for counterintuitive ideas in psychological. I have more than some doubts that the research will be productive – even if it is enlarged beyond the mainstream domain. Being grounded on common sense, Psychology is unable of producing ideas going beyond it. This is true particularly in domains where psychology deals with problems there are not exclusively of specialist interest, namely problems on which other social figures express interpretations too; in these cases the discipline tends to produce knowledge that systematises and/or gives an empirical legitimation to what is already part of the more or less tacit socially shared knowledge. This statement is admittedly a generic simplification of the vast range of psychological literature. However, if one compares sciences like

physics, chemistry, and also linguistics, one cannot help being struck by the chasm separating psychology from the capacity of these sciences to produce knowledge not simply confined to deepening the furrow of what the people in the street are already able to experience and conceptualise, but which builds new worlds that revolutionise the very structure of the naïve's experience of the phenomena in question.

Another cues of the closeness of psychology at common sense is the ease with which psychology becomes part of the communicative contexts of everyday life and by the corresponding permeability of psychological language to everyday discourse. One could almost formulate a kind of *Murphy's law* on this: the more trivial the subject (either because it is irrelevant or because there is no interest in intervention), the more likely it is that a psychologist will be asked to comment on it. It would be far too easy to cite the proliferation of psychologists and mannered 'psychologisms' in the mass media as proof of this law and more generally of the ease with which psychology tends to spill over into common sense. In the same way, one could recall the widespread idea that rather than being a skilled function based on scientific knowledge, psychology is a personal quality that everyone possesses in varying degrees. (Westen, Morrison, & Thompson-Brenner, 2004)

Deterioration of the psychological scientific language

This issue is even more critical than what entailed in the pseudo-empiricism, because it extends over the future the epistemic weakness of Psychology. The fact that the relationship between P and C_Y is regulated by commonsensical reciprocal semiotic implication is the same to say that criteria of validity of scientific statements are, in the final analysis, defined outside the scientific language. Westen, Morrison and Thompson-Brenner (2004) provided a thoughtful, emblematic highlight of this point. They analysed the validity criteria grounding the Evidence Base

Medicine (EBM)'s assumption according to which the experimental design of the Randomized Clinical Trial (RCT) represents the golden standard methodology in psychotherapy research. They argued convincingly how this assumption, that works as the basic normative criterion of validation of psychotherapy research, has not scientific validation in its turn. And one can add: it is clearly grounded on the metaphorical assimilation of psychotherapy to pharmacotherapy (Stiles & Shapiro 1989), namely, on a typical way of working of the common sense, that transforms the similarities in equivalence.

Unfortunately, this is not the worse part of the affair. The very negative consequence of this is that also psychological constructs are unavoidably destined to lose their semantic boundaries and logical consistency and transforming in commonsensical notions. This happens as result of two convergent tensions. From the one hand, one has to take into account that the *P* works as an attractor pushing psychologists to shape *C_Y* in order to make the latter assimilable by the former. This cannot be but so, because in any kind of discourse (maybe with the exception of humor), then also in the scientific discourse, it is the argument/object/*explanandum* which defines the constraints and the terms according to which the predicate/construct/*explanans* may be put in relation with it. To say this in other terms, any scientific statement has to set relationships between *explanandum* and *explanans* that are not only empirically supported, but also plausible. And this plausibility rests mainly on what the naïve already knows as to the *explanandum*. (It is true that in some cases the relationship stated produces a rupture in the already acquired knowledge on the *explanandum*. Yet also in this case the new relationship is acceptable only if it is jointed with a new conception of the *explanandum* too). During the 2010 soccer world championship, all world were astonished of the octopus Paul' capability of foreseeing the outcome of the German team's matches. He was able to foresee 8 results out 8, each time choosing the right box between the two, each of them signed with

the colour of one team – Germany and the opposite. In terms of probability, the possibility that Paul reached this result for chance was less than 0,04. Nevertheless, no one actually thought that Paul was actual able to predict. Another explanation there should be! And this not because the level of probability is not sufficient - in psychology a lot of statements being trusted as truth are based on very higher probability threshold), but because the explanation in terms of Paul's capability of foreseeing is sharply in contrast with our representation of octopuses.

From the other hand, the Psychology as science concerning human affairs cannot but adopt constructs which source from the same phenomena of life they have to model. Thus, most of psychological concepts are originally commonsensical concepts and as such they are largely used in parallel with their scientific appropriation. One has not to study psychology to be able to use notion as *emotion, aggressiveness, culture, representation, mind, thought, motivation, therapeutic alliance, unconscious*, and so forth. Consequently, even if psychological science can commit to elaborate very specific definition for these terms (and actually this is not the most common case), they are constantly subjected to the attraction of the polysemic, fuzzy, contingent way in term of which they are used in the daily language game. And this is so because the scientists that use them are at the same time persons participating to such a daily language game.

These two sources of tension are inherent to any kind of science, in particular of human and social science. Yet if common sense enters the inner of the scientific discourse, as it happens if *P* is defined in terms of daily language, this means that the constraints contrasting the commonsensical power of attraction are highly weakened. The consequence of this is that the language of contemporary psychology is full of terms whose superficial semantic self-evidence hides their theoretical opacity. Constructs as *emotion, representation, context, mind, discourse, text, culture, unconscious, act, agency, normality* are used by psychologists in a variety of significances

that would be unthinkable in other sciences – image the credit a physician would be able to gather stating as premise of own model something like: “according to my definition, an atom is...”. Parallely, many constructs - *leadership, group, commitment, motivation, development, community, dialogue, meaning, addictive behaviour*, and the like - are directly assumed accordingly to their naïve semantics, with the secondary but not at all marginal result that *what should be explained is transformed in what explains*. This is clearly evident, for instance, in the trans-cultural psychology’s use of the construct of culture as an independent variable—the phenomenon, instead of being modeled, is moved on the other side of the scientific statement and transformed in *explanans* (maintaining the commonsensical assimilation with the daily notion of people sharing a language and a country; for a discussion of this point, see Valsiner, 2007).

A corollary of the deterioration of the scientific status of psychological categories is the tendency to use them not as constructs, namely concepts that, as the name itself indicate, *construct* the objects of the discipline in modellistic terms, but to use them as pieces/states/qualities of the world. From this point of view, the psychologists have been through the same process of objectification that Moscovici (1961) saw as characterizing the relation between scientific knowledge and its appropriation by everyday discourse contexts. Ultimately, both psychologists and naïve have contributed to setting scientific psychological language adrift. Nowadays, not only the construct of “the unconscious” referred to in Moscovici’s study, but also many other psychological concepts are treated as if they described pieces of reality, thought hidden, however endowed with ontological substance. Examples of this way of treating psychological concepts abound, across the various domains of theoretical discourse, research and professional practice. Emblematic of the reification of psychological construct is the way the notion of personality trait is treated. Despite the fact that this kind of construct resulted from procedures of

factorial analysis concerning the variability of the whole population for definition, and despite the cyclic methodological and theoretical warning (e.g. Lamiell, 1998), traits are diffusely used as intra-individual dimensions, both as dependent and independent variables, in clinical, differential and social psychology as well.

Strategy of surviving

Smedslund (1988) proposed a radical solution to the epistemic weakness of the psychological language derived from the closeness to common sense. He claimed that this closeness is not the problem, but the condition of validity and the source of the scope of the psychological science. According to him, Psychology has to develop as a deductive system of statements aimed at putting order, making explicit and linking the commonsensical meanings concerning psychological affairs with each other. To say it with an image, Psychology has to “clean” and make order within common sense. Smedslund’s reference is geometry. Geometric laws are deductive, not empirical. The assertion that the sum of the angle of a triangle is 180° is not the description of a state of fact, but a theorem derived deductively from other theorems. In this sense, geometry is an a-priori form of knowledge. Its development is a matter of deductive unpacking of what is potentially already in the mind, not of inductive discovering. The same is proposed for Psychology, whose mission would be the unpacking of the common sense.

The Smedslund’s solution is fascinating, but it makes things even worse than the problem it addresses. It is as if the doctor, after having diagnosed the illness, proposed as therapy the attribution of the value of normality to the disease. Thus, his thoughtful, seminal criticism of inductivism in psychological field played a minor influence on Psychology than the one it would have been worth having.

On the other hand? If one goes beyond the surface, Smedslund’s program of a psychology as systematization of the common sense

is paradoxically what is (implicitly) taking ahead by contemporary mainstream Psychology. The blind inductivism Psychology carries out (Salvatore, Valsiner, 2010) produces an enormous amount of studies whose global effect is the creation of a discourse on human affairs that is not more than a translation in technical language of what is already entailed in the naïve knowledge of the world. One would be wrong to consider such a mountain of data that the scientific mass production is able to offer to the symbolic market as lacking of any function and value. Rather, it is a powerful source of socio-political legitimation enabling Psychology to acquire financial, institutional and symbolic resources. The fortune of the professional psychology is grounded on this exchange. Psychological discourse reinforces common sense and thank to this is committed by social demand, that finds in it a powerful tool for consolidate the normative assumptions on which it is grounded (Carli, 1996; Salvatore, forthcoming (Salvatore & Valsiner, , 2014). The half-century history of the psychotherapy research is an exemplary instance of this collusive exchange. The psychotherapy research begin its development when Eysenck (1952) questioned provocatively its efficacy. What moved researchers was mainly the necessity to legitimate the professional system: Eysenck's article put into discussion the legitimacy of psychotherapy of being supported by the insurance companies. If one considers this basic motivation, it has no difficult to understand why the methodological and conceptual progress of the psychotherapy research has been so slow and however systematically constrained within the framework of the assimilation of the psychotherapy to the medical model (Wampold, 2001): psychotherapy research has had as main concern the socio-institutional request of demonstrating the efficacy – a request that cannot but assimilate psychotherapy to medical care – rather than the scientific commitment to develop clinical theory. In sum, the survival strategies adopted is to sell Psychology to society for the sake of psychologists' social success.

Psychology as science of the explanandum

The alternative strategies consists in that: *Psychology has to radically distancing from common sense*. This requires to carry out two complementary operations. On the one hand, Psychology has to put common sense outside its language. On the other hand, it has to develop an analytic and methodological apparatus enabling it to handle reflectively the inherent semiotic gravitational attraction that the common sense exercises on its language. As above stated, the Trojan Horse of the common sense is the definition of the phenomena Psychology assumes as its objects (i.e. the *P*). As long as such definition will be made in terms of naïve language, the whole psychological language will be deteriorated by such promiscuity. Therefore, what Psychology has to do is to give up with the current division of epistemic work with common sense and to begin to define own objects in terms of own scientific language. To say it with other terms, it has to pass from being a *science of the explanans* to be a *science of the explanandum*.

This shift is somehow a Copernican turn: the change from of an empirical science, as contemporary Psychology self-represents itself, into a modelistic science. Nevertheless, it is a pathway already footed. History of science provides many cues of how such shift is the pre-condition and the ground of the development of the scientific thought, that makes science an autonomous intellectual enterprise. Physics is the paradigmatic example of this kind of development. Its objects are defined from the inside of own scientific language, essentially in terms of mathematical constructions. To make an example, quantum mechanics is not only an explicative theory – it is a framework which constructs the objects that on the other hand are studied. Given that these objects are constructed in accordance with the inner rule of the physics language, they result fully independent from the daily conception, so far from common sense as Wonderland is. The consequence of this is that who is not competent in the phys-

ics language is unable to understand not only the explanation (i.e. the *explanans*), but more deeply the phenomenon the explanation concerns with (i.e. the *explanandum*). In this there is the radical distance between Physics and Psychology - most of statements of the latter being so accessible and consistent to the naïve.

On the other hand, the development of science in modelistic terms (here I adopt this definition to denote science that defines theoretically own object of investigation) is not an exclusive prerogative of hard sciences. Several disciplines within the realm of social sciences have assumed the status of modelistic sciences. Think semiotics. It defines itself as the science of the signs and of signification (Eco, 1975). Now, signs and signification are not empirical phenomena, that semiotics finds before its start up. On the contrary, they are modelistic constructions made by semantics itself and providing the object of knowledge grounding and targeting the scientific enterprise. Linguistics is another example of this kind. Economics provides another powerful example of modelistic science. Economic objects are not empirical phenomena. They do not exist independently from economics. *Value, distribution*, as well as *market, demand, offer, choice, pay-off, inflation*, and so forth, are theoretical constructions, not categories of the common sense. Better, they are both: scientific constructs and common sense notions. But this is so for the opposite movement respect on Psychology: Economics has exported its constructs toward common sense, rather than assimilating forms of daily language. The Luhmann's theory of society (e.g. Luhmann & De Giorgi, 1992) is another example of modelistic construction of the scientific object of investigation. According to Luhmann, Sociology is the study of the society; yet the society studied by sociology is a theoretical object that has not the same meaning as the naïve definition. For Luhmann, society is the recursive system of social linkages. Thus, society is not composed by persons as naively we believe, but by linkages.

Modelistic logic is not totally extraneous to Psychology. The first part of the Freudian theorization is worth being considered essentially modelistic. The Freudian topographical model, the rule of the dream-work, the notion of primary process, the very idea of the psychic determinism: all of them are examples of theoretical construction of the scientific object, rather than instances of explanations of commonsensical phenomena. Then, with the development of the psychoanalytic movement, and the preeminent role assumed by the clinical professional practice within it, this original modelistic attitude was progressively marginalized.

The self-referentiality of science

A science that defines the object of investigation from within its own language is for definition self-referential. And this can easily raise intensive criticisms. In particular, one can object that self-referentiality would mean to cut the linkage with the world of the facts and events, therefore to lose any external criterion of validation. In so doing, at the best psychology would be led back to philosophy. I think that there are several reasons for rejecting this criticism/concern.

Firstly, one has to consider that the commonsensical definition of psychological phenomena is however a construction. More, it is a construction that for the social nature of the process from which it results, trends to be contingent to structures of power, system of values and interests, and the like (Teo, 2005). Therefore, the version of the world that common sense provides to psychology is neither a direct channel to grasp reality nor an enough stable basis for building theory. One can find a huge amount of instances of the unreliability of common sense. Think psychopathological theory that defines the phenomena of interest accordingly to the evolution of social values and structures of power— for which, two centuries ago in the Southern States of United States the enslaves that did not surrender to their condition and tried to escape were considered affected by the mental syndrome of Runaway Slave Dis-

order (*drapetomania*) (Grasso & Stampa, 2011). And that this is not the exception but the rule is shown by the fact that even nowadays some psychologists still persist to see homosexuality as a disorder.

From a complementary point of view, one has to take into consideration that the renounce to the common sense foundation of phenomena does not mean to remain without criteria of validation for selecting theories. Even if the vision of science as a perfect rationale world being not affected by the social dynamics active in the other domains of human life is a myth (e.g. Kharlamov, 2010), however it is reasonable to think that the scientific normative criteria derivable from the modelization of the object are far more consistent with the aim of the scientific enterprise. In comparison with criteria derived from common sense, scientific criteria are more transparent, more ostensible, therefore more negotiable and dynamic, less contingent to particularisms, more stable and less polysemic. Thus, as one defines the object of knowledge X in psychological terms, this definition produces *ipso facto* a set of constraints and regulative criteria defining the condition of validity of the theorization at stake in a more efficient and efficacious (and further developable) way than relying on the taken for granted normative believes provided by the common sense. Take the case of a researcher aiming at analysing communication. Imagine that she assumes the naïve definition of this object. This definition is polysemic, and therefore it does not provide systematic syntactic and semantic constraints on how the phenomenon can be addressed and what may be said about it. For instance, imagine that the researcher has to define a parameter of the participant's commitment in the communication. One possibility could be the time spent in communicating; another possibility is the symbolic costs participant accepts to pay in order to be part of the communication. Well, the common sense definition does not provide a criterion according to which one can decide which of the two parameters is more consistent with the phenomenon. Better, due to its polysemy,

the common sense definition provides many criteria. Different would be the case of the modelistic construction of communication. In this case, given that it would be made in the same language of the further operation of investigations, the definition itself would work as regulative criterion for the following conceptual and methodological operations.

In sum, the renounce to refer to the commonsensical definition of phenomena does not mean to give up with constraints and possibility of selecting theories. Rather, it means to overcome a source of misleading implicit criteria in favour of more consistent and efficacious parameters of validation. On the other hand, disciplines as Economics, Linguistics and Semiotics highlight how self-referentiality does not mean renounce to validate/select theories.

A further relevant aspect to underline is that modelistic science does not mean anti-empirical science. A theory driven Psychology would not give up with data; the empirical dimension would not disappear; rather it would be redefined in its role. Indeed, in the modelistic science data do not build the theory; rather they are informed and shaped by the theory. And this is just another way of claiming that modelistic science is neither deductive nor inductive, but abductive (Salvatore, Valsiner, 2010). According to the abductive logic, the empirical investigation is not a mere matter of data retrieval, but of production of a version of the world in the terms of theory. In other words, in modelistic science empirical research performs the function of generating a local version of the theoretical object in the space-temporal setting of the investigation. The experiments conducted with the particle accelerator provide an efficacious example of this peculiar linkage between theory and experience. The particles accelerator is not only a mediator between the reality and the observer. Rather, it is the generator of a specific version of the reality produced in accordance and for the sake of mirroring the physics' model of the object. This is evident in the name itself: an accelerator of subatomic particles is thinkable and producible only because and on the

grounds of a theory stating the subatomic composition of the matter. Obviously, the accelerator produces data; yet these data are epiphenomena of a world that is instantiated by the theory; therefore, such data can be recognized, collected, understood and used only through the mediation of the theory. Thus, physics is committed on empirical investigation, but on a kind of empirical investigation that is theoretically driven. Yet such a prominence of theory does not mean that physics is unable to select and develop theories. On the contrary, the modelistic approach assures physics the possibility of developing consistently with its own criterion of validity: being realistic not necessarily means to be in close correspondence with (the naïve representation of) the world. It can be more realistic to shape the world so to make it a representation more consistent with the aim of the observer.

Opportunities

As far I have proposed arguments to defend the self-referentiality of modelistic science from criticism. In this paragraph I want to go a step ahead and highlight why modelistic science draws a perspective of development for Psychology.

First, I have already mentioned that overcoming the commonsensical definition of psychological phenomena has the fundamental aim of defending the language of Psychology from the deterioration the promiscuity with common sense exposes it.

Second, renouncing to assume phenomena as defined by the common sense does not mean to isolate Psychology from world. In part I have addressed this point discussing the issue of empirical investigation in the case of modelistic science. More in general, self-referentiality means not to assume the world directly, but however to deal with it, yet through the mediation of the theory. Thanks to this mediation Psychology would empower its capacity to enter epistemic and pragmatic relationship with the world. Other sciences provide examples of that. For instance, take the economic theory of the price. This is

a modelistic theory, inscribed and concerning a theoretical object (the market as an abstract concept). Nevertheless (better, thanks to that), it works as a powerful heuristic both at the level of formulation of policies and at the level of naïve persons engaged with the problem of buying or selling something. More in general, mathematics and geometry provides clear examples of how the knowledge produced by scientific domains being not directly in touch with the world can be spent usefully in and for the world. There are not triangles and square in the reality, and just for that geometry is very useful because it enables us to think some forms in terms of triangles or square.

Third, the modelistic construction of the object is a way for empowering – rather than preventing – the capacity of Psychology of producing innovative statements on the world. This is because the modelistic attitude weakens the conservative power of common sense. Indeed, common sense works with the mind of researchers as the ancient maps, where at the limit of the known world there was written “*hic sunt leones*”. The more the common sense participates to the construction of the scientific knowledge the more these constraints are cogent. Therefore, distancing from common sense is the way for producing thoughts not yet thought. For instance, if the psychologists keep themselves within the common sense assumption that what we represent as our thought is the product mirroring the inner state of our thinking, then this assumption puts seriously limits on the production of innovative ways of conceiving many aspects of subjectivity and relationship. An analogy with mathematics helps to highlight the latter point. Irrational numbers openly violate our naïve idea of numbers. It is hard for us to image them, to consider them being consistent with reality. Not for chance they are defined “irrational”. Well, this kind of number is adopted in several computational procedures whose output has relevant concrete applications in the world. This to say that to violate the mundane norms can be the best way for pursuing mundane scopes in a consistent way:

again, the reality is experienced in colour, but we can grasp it better in black and white. Latter consideration leads to the last point I intend highlight. Psychology, as science of the meaning and sensemaking, pursues the epistemic task of analysing and understanding common sense. Needless to say, insofar as it just keeps within the Hercules' columns of the naïve assumptions, it cannot take ahead this task in efficacious way. A Psychology being prisoner of common sense is a Psychology that acts it, rather than understands it.

Psychology as the science of sensemaking

In the volume “Psychology in Black and White” I present my contribution to the development of the modelistic Psychology. It is grounds on the foundational idea that sensemaking is the object of Psychology.

Very many works addresses phenomena and aspect concerning meaning and sensemaking (e.g. Guidi & Salvatore, 2014; Linell, 2009; Moscovici, 1961; Sato, 2011; Valsiner, 2007, 2012, 2015; Valsiner & Rosa, 2007; Zittoun, 2006). These works focus on relevant characteristics of its functioning (e.g. dialogicality, hierarchical organization, semiotic mediation, embodiment, and so forth) or provide ideas as to how it works, and/or analyses specific pattern of meanings and their role in psychological life. Differently from most of those works, my aim is to define a fundamental model of sensemaking, a model depicting its basic, constitutive dynamics. Accordingly, my focus concerns what I consider the core theoretical issue that any modelistic construction of sensemaking has to address and solve – the *presentification*, namely the inherent capability of the semiosis of making the world present for the sensemaker. Sensemaking is a matter of sign that in the final analysis consist of body modifications - yet the semiotic dynamics makes such modification endowed of *value of life* (Salvatore, 2012), namely it enables the sensemaker to live them as the experience of the world-out-there.

The issue of presentification is not new. Gestalt theory has considered it as the constitutive process grounding the very perceptual construction of the object. Persons do not perceive pieces of experience that are before collected and then signified. Persons perceive totalities. And, given that - as the Kanizsa (1955) experiments showed – these totalities are not hold in the field of experience – they have to be conceived of as the product of the constructive inherent activity of the mind - indeed, of its capability of presentification. Yet, contemporary psychology has left apart this notion, moving the focus on *representation*. In this terminological shift there is a relevant conceptual change. Cognitive Psychology did not care how the value of life of the representation comes from, namely of the fact that representation are re-presentation. Its functionalist standpoint led to scotomize the issue of the generative process of psychological life, fully substituted by the task of the description of its way of working.

My goal is to retrieval this conceptual problem, that I consider a necessary passage to be addressed for the sake of developing the psychology as science of sensemaking. In last analysis, the point is to elaborate a model of the basic psychological operations that enable the mind to work semiotically, that is to process the experience in terms of signs referring to things through the linkage with other signs. To say with an image, my interest concerns with something as a theory of the big-bang of the psychological universe: the model of the very first moment of subjectivity. Needless to say, in the case of psychology the idea of a very first moment has to be considered not in chronological sense, but in accordance to a plurality of other dimensions– namely, from a phylogenetic and ontogenetic point of view, as well as from logical and micro-genetic standpoints. As matter of fact the psychological operations generative of the mind occurred during the phylogenetic path (Corballis, 2011), and that have a developmental course within the individual life. Moreover, many daily life situations show how phenomena of presentifica-

tion vary in their probability and condition of occurrence (e.g. take what happens to the person watching a film: she can feel part of the story, caught by it – or consider it just a series of fictional representations on the wall).

Dynamics, process and phenomenon

For the sake of making clear the focus of my model of sensemaking, a distinction is worthy between dynamics, process and phenomenon. The phenomenon is what one makes experience of: it is the content of our representation as it is shaped by the categories of common sense we are inscribed in. To think of something, to feeling a given state, to act in a certain way, to express some believes: these are all phenomena, as well as school drop-outs, delusion, memory decay, dreaming, making love, and so forth. I intend dynamics as the basic rule constitutive of the field, namely the constitutive dimension of sensemaking. Therefore, the dynamics is for definition a theoretical object, definable only within and in terms of a conceptual framework. From the standpoint of the dynamics, life is quite monotonous: everything happens is however a function of the same general rule. Dynamics cannot change – it is the source of change. Process is what somehow links dynamics and phenomena. It is the local way of functioning of the field, as it is shaped in accordance with the contingent interaction of the pertinent elements. The relationship between process and dynamics is pluralistic: the same dynamics generates many local processes. In its turn the same process can generate different phenomena, so as the same phenomenon can be the product of different dynamics. This is so because in the final analysis psychological processes are in random relationship with behavior (i.e. the phenomena): the same psychological state (*lato sensu*) can be associated with many behaviors, as well as the same behavior can be the marker of many different psychological states (Salvatore & Valsiner 2010; Toomela, 2008). For instance, the intensive romantic commitment on another person can

trigger behavior of caring in some cases as well as aggressive acting out in others.

The analogy with language can help to clarify the distinction among these levels. The grammar of a given language can be considered the equivalent of a process. It is the way language works locally (i.e. in the spatial-temporal portion defining a given linguistic community). Grammars change over time and through space. Grammar, thus, is unable to define this change, for the very fact that it is the product of it. In order to study the evolution of grammars, one needs to consider such evolution as responding to some basic invariant and general tenets. If not, grammars would be incommensurable with each other. This level is what I intend with dynamics. On the hand, each grammar is a post hoc modelization of how language is used, that is of the language phenomenology. The use of language is the equivalent of what here is intended as the level of phenomenon.

As I see it, the enterprise of language theory stands or falls with the realizability or unrealizability of the research idea of finding out something of consequence about the structure of human language in the singular, and of interpreting the known difference in the make-up of the languages as different families as possible variants of language in the singular (Bühler, 1934/1990, p. 158)

In parallel with the distinction among process, dynamics and phenomenon, we can put one among as many levels of theory. Dynamics is the content of the *general theory*. In last analysis, its mission is the understanding of the difference: how the unitary functioning of the whole generates variability. *Local theories* address processes. Their aim is to understand the various psychological processes that the dynamics feeds. *Pragmatic theories* concern phenomena: they reconstruct the process characterizing a certain field in the language of the phenomena. As the reader may note, this distinction has little of new. It echoes from a side the dialectic emic-etic. Moreover, it has similarities with

the Marr (1982)'s distinction among functional, procedural and algorithmic level of description (to put in correspondence respectively with pragmatic, local and general theory).

One last point. My approach is radically dynamic. I consider meaning and sensemaking in terms of emergence and I focus on the definition of the constitutive dynamics generating such emergence. According to my approach, and within the specific aim of the theoretical task I address in "Psychology in Black and White", the structure is just what has to be understood, not what enable to understand. I see this methodological choice as unavoidable, given that the reference to a structure in the definition raises recursively the issue of the definition of the structure, *in a regression ad infinitum*. I recognize that it is not possible within the constraint of our language to completely eliminate the reference to structures (Toomela, May 2010, personal communication): it is sufficient to use a substantive for reifying a structure. Therefore, the dynamic approach has to be considered as an asymptotical criterion.

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