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FUNCTIONAL REASONING IN PSYCHIATRY

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Summary — Two types of functional reasoning are commonly used in psychiatry. For the first, a mental disorder is conceptualized as the impairment of a mental function: this type of reasoning is nowadays oriented towards research on neurobiological disorders that are supposed to underlie mental disorders. For the second type of functional reasoning, a function is assigned to a mental disorder — that is, such a disorder is considered as a defensive process in a mental or family system — and this function has an etiological role, not only in maintaining the disorder, but also in trigerring it. We detail this second type of reasoning that gives a strong explanatory value to the notion of function. We briefly analyze some variations of this explanatory value in the psychoanalytic, cognitive-behavioral and family/systemic models that are among the main conceptual

frameworks currently used in psychiatry. Finally, we attempt to clarify certain epistemological consequences of the irreducibility of functional etiological reasoning in psychiatry.

Introduction

The notion of function is often used in psychiatric practice. A first use of this notion is at the heart of a fundamental type of reasoning in medicine: a disease is revealed by certain symptoms that indicate that a particular organ (or system) « does not work », i. e. that *the organ's function is impaired*. But current models in psychiatry often imply a different use of the notion of function, associated with another type of reasoning, for which *the existence of symptoms is explained by their function in the mental system* (or in the family system in some cases). The contrast between these two types of reasoning is in fact central in the psychiatric field: in the first case, a mental disorder is conceived as a deficit; in the second case, on the contrary, it indicates a positive power of defensive adaptation. In this text, we will clarify these two types of reasoning, before highlighting the irreducibly etiological characteristics of the second type of reasoning.

1. Faculties and impairments

The core of the first type of functional reasoning in psychiatry can be analyzed in this way:

(1) a mental disorder concerns a mental system;

(2) a mental system is composed of mental faculties as a physical system is composed of organs (or other components);

(3) as an organ has a function in a physical system, a mental faculty has a function in a mental system;

(4) as a disease shows the impairment of the function of an organ in a physical system, a mental disorder shows the impairment of the function of a mental faculty.

The fundamental science relevant for this type of reasoning is a « faculty psychology » (or another more recent version such as a « modular psychology »). Let us note the link of such a science with the *pathological method* whose paternity is attributed to Theodule Ribot for modern psychology: a mental disease would highlight the function of such or such faculty because this function would no longer be fulfilled, as an organic disease highlights the function of such or such organ. For example, memory could be « dissected » by studying its impairments, this or that type of amnesia highlighting this or that elementary faculty composing memory (Ribot [1881] 2005).

Admittedlly, mental disorders, involving all aspects of mental life, seem too complex for a simple correspondence to exist with the impairments of elementary faculties. But the description of these disorders could be done on a functional

basis, and indeed, psychiatric semiology manuals describe the clinical process of diagnosis by reviewing the different functions to be assessed (cognitive, affective, relational functions...). The combination of the impairments observed is intended to identify the disorder, which is essentially conceptualized as a mental malfunctioning.

Such a conceptual framework fits well with the DSM (American Psychiatric Association 2013), the American classification of mental disorders whose nosographic categories are described from groups of symptoms that should ideally coincide with alterations in natural functions (which themselves may correspond to faculties selected by Evolution). Some authors add to the definition of a mental disorder as a mental malfunctioning the notion of negative value, such a value being mainly conceived as the result of a harmful social disability (see, for example, Wakefield 1992), but a disability is often defined itself by a functional impaiment. For example, French law defines disability as follows:

« Art. L. 114. - For the present Act, a disability is any limitation of activity or restriction of participation in society suffered by a person in his or her environment as a result of a substantial impairment (lasting or permanent) of one or more physical, sensory, mental, cognitive or psychic functions... »[1]

However, the definition of a mental disorder in terms of impairment of a function raises delicate epistemological and ontological questions:

[1] « Art. L. 114. - Constitue un handicap, au sens de la présente loi, toute limitation d'activité ou restriction de participation à la vie en société subie dans son environnement par une personne en raison d'une altération substantielle, durable ou définitive d'une ou plusieurs fonctions physiques, sensorielles, mentales, cognitives ou psychiques... » (Loi n° 2005-102 du 11 février 2005, translated by the author).

- the definition of the faculties that would constitute a mental system is problematic: the functional « slicing » of the mind is a hard task, with countless proposals since Gall and Comte (Clauzade 2008);
- the ontology underlying the functions that are supposed to be altered in the case of a mental disorder is questionable: does a mental faculty exist independently or does it depend on an organic substrate?

It is tempting to solve these problems with a magic wand and discover the « natural » foundation of mental functions in an organic substrate, which today consists in turning to neuroscience to search for the supposed neurobiological bases of mental functioning: (1) the cerebral system (the brain) would provide a solid basis for ontologically guaranteeing mental faculties and functions, (2) such a natural basis could also provide the means to solve the epistemological problems posed by the delimitation of mental functions. (Democritus already laughed at such a temptation — see Pseudo-Hippocrates [≈ 1st century AD/1989].)

Three remarks can be added to clarify the scope of this type of reasoning which conceives a mental disorder as a malfunctioning:

1. The concept of mental malfunctioning is not intrinsically linked to the idea of organic impairment (today, « neurobiological disorder »). On the contrary, in medical science, the notion of « functional disorder » is classically opposed to that of organic lesion. For example, many headaches, digestive disorders, lower back pain, etc., are described that are not supported by any lesion. These « functional

disorders », which some general practitioners might admit represent the majority of their consultations, are no longer labelled as « simulation » or « pithiatism », but are nevertheless easily referred to mental medicine under such famous names as « somatization » or « hysteria ».

2. The reasoning putting forward a mafunctioning to account for a mental disorder obviously does not give any etiological value to the function in question: by definition, this function is not fulfilled in the disorder.

3. Even if *malfunctioning* can be described in any mental disorder, and even if there is a pragmatic value in the epistemological/ontological leap from such mafunctioning to *a dysfunction*, this type of reasoning induces a high risk of reducing a mental disorder to a *deficit* of one or more faculties. This is the strongest criticism of this first type of functional reasoning in psychiatry: by insisting on the negativity of malfunctioning, mental disorders are inevitably reduced to deficits, and the functional value of a mental disorder in subjective or family life would thus be ignored; yet this functional value would be essential to understand the (existence of) the disorder, as highlighted by the second type of functional reasoning in psychiatry.

2. The defensive function of a mental disorder

The second type of functional reasoning in psychiatry is based on an axiom that guides the clinical thinking of many therapists (e. g. Plagnol 2006): *every symptom has a defensive value in the mental life of a subject (or in the collective life of a group of subjects).*

The concept of defensive value in mental life can be illustrated by a comparison with organic pathology: in circumstances of aggression — for example by an infectious agent such as measles virus — the human body uses internal defensive systems whose reactions dominate the clinical presentation (fever, rash...), or even pose specific therapeutic problems (immune diseases). More generally, when a complex organism is in a pathological state, a significant part of its symptoms is caused by *defensive processes* activated by the individual's biological memory (Plagnol 2008). And the medical tradition dating back to Hippocrates, not to mention non-Western traditions, has always placed at the heart of its reasoning principles the consideration of the body's natural defences. The wise doctor respects these defences, his/her role being limited to promoting the natural tendency towards recovery: *primum non nocere*.

Similarly, thanks to its memory, the mind of a human subject is a complex system, so the tension on this system raises some defences (e. g. Plagnol 2004, 2006). A defensive process is not pathological in itself, quite the contrary: given the complexity of our interactions with the environment — starting with intersubjective relationships — some conflicts are inevitable, hence the importance of defensive processes, even if these processes are characterized by their rigidity in the case of a mental disorder.

In modern times, Sigmund Freud was the first to have developed in depth a concept of defence, but besides psychoanalysis, the main models currently used in psychopathology, beyond obvious differences in terminology or perspective, share the same fundamental idea that the presence of symptoms can help to reduce tension on a mental or family system. Before discussing these models, we will highlight three aspects of this type of reasoning that assigns a functional value to mental disorders.

1. It is not contradictory to apprehend a mental disorder as both displaying a malfunctioning and having a defensive functional value. In fact, two distinct levels of reasoning are involved, implying two different types of functions: (1) the first level allows to identify a pathological entity based on the recognition of dysfunctional phenomena described either from semiology (for example, alterations in certain memory functions in hysteria) or from normative models of functioning (for example, intensity of certain modes of identification in hysteria), (2) the second level allows to understand the defensive value of the disorder (for example, the defensive value of hysteric amnesia in relation to trauma).

2. The function of a mental disorder has *an irreducible etiological value* insofar as this function is essential to explain the presence of symptoms.
Indeed, a psychiatric symptom seems by definition irrational for the affected subject or for others, if only because of the suffering felt. For example, a depressed old man or his relatives do not understand why he is plunged into such

a dark well, a bulimic young girl despairs of being unable to control her craving by her will, an obsessive man is tortured by the rituals he is forced to perform though he is aware of their absurdity, a schizophrenic woman commits certain acts that are senseless for others and foreign to herself, etc. *Only* the defensive value of the symptom can explain its presence.

The repetition of symptoms despite their apparent absurdity is the strongest argument in favour of their etiological functional value. Indeed, resistance to change seems to be essential to any mental disorder, which is strikingly confirmed by the relapse phases during therapy. For example, the risk of suicide attempt after apparent clinical improvement is well known in many disorders: depressed subjects when drugs lift inhibition, borderline subjects who seem to reach lastly stability conditions, schizophrenic subjects too brutally deprived of a delusion by a neuroleptic... Respect for defences is at the heart of treatment, as is the necessity of a framework of care capable of containing the depressive phases that occur in any therapeutic path. The cost of waiving symptoms proves their function.

3. The defensive function of a symptom depends on the experience of the affected subject and can only be understood by the meaning of the symptom within a singular life story that is registered in memory.

To make this point clear, let us briefly recall the *traumatic model* that underlies the simplest form of defensive functional reasoning in psychiatry. In modern times, this model can be dated from the hysteria theories of the late 19th century, but its roots go back to antiquity. Indeed, the traumatic model reflects the tragic

condition of the human being confronted with the possibility of events that overflow the integrative capacities of the psyche (Pigeaud 1989, Plagnol 2003).

A *traumatic situation* is defined as a situation whose intensity exceeds the subject's mental elaboration capacities (Plagnol 2004). Schematically, a traumatic situation is such a powerful source of tension that it cannot be integrated into the individual story without triggering certain pathogenic defences and the symptoms observed are a protection against this situation or its reactivation.

For example, one subject is affected by a phobia of driving after an accident, another develops amnesia related to sexual abuse, a young man in a manic state flees a loving disappointment, a young woman falls into post-partum melancholy because of a birth that precipitates her into the torment of being a "good mother"... In any case, the presence of the disorder can only be explained by its defensive function against a traumatic situation.

It should be stressed that the traumatic aspect of a situation does not depend on its intrinsic nature but depends on the meaning of the situation in the subjective story. For example, a birth only causes parturient depression if it resonates in her memory with some elements of her unique life story. Such elements often date back to childhood and may have had their own traumatic impact, so that « cracks » have formed from them in subjective memory. Therefore, the defensive value of a symptom refers not only to a triggering traumatic situation, but to the whole individual story that preceded that situation and shaped vulnerability.

3. Models of disorders and functional reasoning

We now briefly clarify the types of functional reasoning that are applied in three of the main conceptual frameworks currently used in psychiatry.[2]

3.1 Psychoanalytical model

As we have already mentioned, Freud's work inaugurated psychiatric reasoning based on the function of the symptoms observed. The discovery of the defensive value of conversions, phobias and obsessions, has even been decisive for the emergence of the psychoanalytical paradigm. We will limit ourselves to highlighting some aspects of this model that are relevant to our topic:

1. Even if the psychoanalytical model emphasizes the defensive function of symptoms, the understanding of a mental disorder as a malfunctioning is still present, at least in Freud's work. The father of psychoanalysis blames psychiatry for considering neurosis as *only* a deficit without recognizing the powerful strengths that symptoms express. But the idea of a mental disorder as an impairment in relation to a norm is not eliminated in the psychoanalytical model, even if such an impairment is considered in relation to a preferential type of psychosexual development.

[2] We set aside the biological paradigm which is mainly concerned with the first type of functional reasoning: in this paradigm, a mental disorder is essentially considered as a malfunctioning caused by certain physical alterations.

2. The defensive function of symptoms has an irreducible etiological value in the psychoanalytical model, because this function is essential to explain the presence of symptoms (which even receive from this function a mark of necessity). Without their function, the symptoms would be incomprehensible: Freud constantly invokes this argument to support the relevance of the psychoanalytical model, which thus manages to explain certain pathological phenomena of a very irrational nature, such as obsessive rituals or phobic avoidance, as well as other strange everyday phenomena such as dreams or missed acts. And the tendency for a disorder to persist despite attempts to cure it is the strongest argument in favour of its functional defensive value. According to Widlöcher (2005), the successive reworking of Freudian ideas reflects the gradual discovery of patients' ever-increasing resistance to change, up to the « negative therapeutic reaction » when recovery « threatens ».

3. In the psychoanalytical model, the defensive function of symptoms is understood according to the *meaning* that the symptoms take in the most personal and intimate life, which refers to the highly singular history of a subject. The model of an objective trauma, if it influenced the first Freudian ideas on hysteria, was then abandoned for a model that takes into account the complexity of the psychic apparatus and the fantasies that the mind can generate, which implies to analyze the concept of traumatic situation in a relative way (as the definition given in § 2 *supra* of which Freud himself is at the origin): a situation is traumatic

only when its intensity exceeds the subjective defenses that depend on the individual life story.

3.2 Cognitive-behavioral model

The cognitive-behavioral model retains the key-points of the functional reasoning:

1. The cognitive-behavioral framework involves the concept of function at both levels of functional reasoning. On the one hand, the analysis of a disorder explicitly highlights some malfuntionings: (1) a disorder such as depression is characterized by a class of elementary functional impairments (e. g. Blackburn and Cottraux 1988), (2) a disorder model typically describes a series of « dysfunctional » behaviors and cognitions with reference to certain normative values (e. g. Beck's Dysfunctional Attitude Scale — Weissman and Beck, 1978). On the other hand, the reasoning behind cognitive-behavioral therapy is based on the *functional analysis* of the problem situation: such a functional analysis is a careful search for the function of symptoms in the multidimensional system (cognition-emotion-behavior) which constitutes a subject in interaction with his/her environment.

2. The mode of reasoning that assigns a defensive value to symptoms is *essential* to the behavioral or cognitive explanation of the disorder, and is also essential to the mode of therapy that results from this explanation. Admittedly, the term « defence » is rarely used in this context, but therapy remanins a matter of

taking into account processes that allow a reduction of the tension of the subject-environment system. Indeed, behavioral methods mainly target mechanisms that reinforce pathological responses triggered by problematic stimuli — for example, avoidance in a phobia, compulsions in an obsessive-compulsive disorder... — in order to replace these responses with other more satisfying behaviors. Similarly, cognitive methods typically attempt to reveal automatic thoughts generated by certain representational schemas, which are at the root of symptoms repetition and have developed because of their adaptive value. For example, if a depressed subject is inclined to self-personalize the causes of painful events, this tendency may be explained by the defensive value of a « personalization schema » that developed when the subject was confronted with situations of learned helplessness.

3. The function assigned to symptoms refers to individual history: learning processes by definition underlie the behavioral model, while developmental processes are involved in the cognitive model. Thus, a functional analysis includes a diachronic component that aims to identify predisposing, precipitating or triggering events that contributed to the disorder. The concept of traumatic situation, in relation to a more or less vulnerable diathesis, is largely used in this paradigm — for example, a depressognenic mode of functioning is explained by highlighting certain experiences of separation from childhood that have caused a feeling of helplessness. And some therapeutic methods are grounded on an understanding of the relationships between pathogenic schemas and life history,

even if behavioral and cognitive therapies do not aim to provide an explicit explanation of the disorder based on the past.

3.3 Systemic (family) model

The systemic model, being focused on the family system (unlike an individual-focused model), assigns a systemic function to symptoms. The key elements of functional reasoning — of course transposed from the individual to the systemic/family level — can be easily highlighted:

1. The distinction between several levels of function is at the heart of systemic theory. First, if the impairments that traditional psychiatry describes at the *individual* level (for example, schizophrenic behavior) are understood as superficial appearances, it is to highlight mafunctioning exchanges at the *system* level (for example, « schizophrenic transactions » with series of double-bind messages in the family). Second, the symptoms are considered to be implemented by powerful homeostasis mechanisms, which means that the symptoms have a defensive value that is critical for the survival of the system. For example, Haley (1959) showed that schizophrenic behavior and repeated sequences of double-bind messages have a critical adaptive function for family organization.

2. According to the systemic model, the homeostatic function of the disorder within the family system *explains* its presence, otherwise the pathological behavior of an individual would remain a mystery. In this framework, the

etiological value of the function of the symptoms is also demonstrated by their power of repetition. Such power is evidenced by a relapse, or by a shift of the « designated patient », when the system is overstretched for a change. Moreover, it is only by using the resources of the system that underly this homeostatic function that some effective therapeutic levers can be activated (for example, the paradoxical prescription of symptoms — see Selvini Palazzoli *et al*.[1975]).

3. In this framework, the development of a pathological family system refers to the history of this system. For example, the emergence of a schizophrenic system is the result of a long process of learning the double-bind as a way of family communication. The rules of the system's functioning are in fact deeply underpinned by certain transgenerational *family myths*. A traumatic situation is threre defined as a threat of potential change that endangers the very existence of the system and requires the use of homeostasis mechanisms so rigid that a disorder results. The pragmatic view of systemic therapies does not aim at an explicit and unequivocal understanding of the past, but clinical work on the genogram is a basic tool in this framework, and a better understanding of family history — for example, the disclosure of a family secret — is often the key to overcoming a therapeutic blockage.

4. Some epistemological points and questions

As we have seen with the three models studied above, psychiaric reasoning often confers an essential functional value to symptoms. Some points deserve to be highlighted:

- The function attributed to a symptom S is not only *systemic* (Cummins 1975) — by contributing to the balance of a mental or family system —, but also *etiological* (Wright 1973) — it explains the presence of S —, and even *teleological* — it is its defensive « purpose » that explains the presence of S.
- The functional explanation here involves intentional categories related to the *meaning* that the symptom takes in an individual or family life story. Moreover, outside the behaviorist model, such a meaning depends on certain subjective or family representations stored in memory. However, such a meaning has no direct etiological impact: a symptom S has the effect of reducing tension on a system, and S is there *because* it has this effect, but its defensive purpose is not itself represented by the system.
- The defensive function of the symptoms has an *irreducible* etiological significance. Indeed, the functional explanation is *necessary* here to account for the *persistence* of symptoms despite their apparent absurdity. Without its function, a mental disorder would not persist after its formation. This function is defensive: to recover, the mental system (or family system) must go through a peak of potential associated with mental (or systemic) tension. (Tension can increase if symptoms disappear.) Moreover, the defensive function explains the initial *formation* of the disorder: symptoms are set up because they decrease the tension in the mental/family system.

How the effect that defines the function might be effective if it isn't represented in some intention? How is it possible to protect oneself in advance from a tension that comes from the resurgence of a traumatic event if this tension isn't at least anticipated? Is it possible to recast in terms of causal laws a tension reduction effect in a mental (or family) system, as in physics an effect depends on minimizing potential differences according to the causal laws of energy? Could the language of function be eliminated by this route in psychiatry?

One might prefer to reverse the burden of argumentation by noting that a physical effect can be redescribed as the result of a tension reduction function: why does a physical effect exist if not because it reduces the tension of a physical system? Indeed, how can the orientation of material causality be explained? Would the concept of function reappear in physics if we did not give up accounting for this orientation?

Conclusion

What is the reason for the irreducibility of etiological functional reasoning in psychiatry? In fact, this irreducibility can be detected in any medical science as soon as it accepts the defensive force of the reactions of a complex organism confronted with a « traumatic » situation that exceeds its normal functioning. Any complex system operating in a changing environment must have homeostasis mechanisms that allow it to maintain its existence in such traumatic situations. Thus, when a disease is detectable by a syndrome, with impairment of a system

function, according to a first type of functional reasoning, this syndrome has a functional value according to another type of functional reasoning, which explains its presence. Mental or family systems are areas where such complexity, with its intrinsic functional normativity, can no longer be neglected.

It is likely that any living organism, at least with a nervous and/or a immune system that provides some memory, has sufficient complexity to make the alteration of a natural function in that organism also correspond to a function in a new equilibrium that the system achieves as long as it remains alive. Indeed, a sick organism develops its own normativity thanks to its memory that interacts with the environment (Canguilhem, [1966]/2005).

Autonomy, as the ability to develop new functions — which is equivalent to the ability to develop new norms — is essential to the animal kingdom. Animality implies a potential for functional self-normativity and the case of a disease confirms that this potential exists even in an unfavourable condition where usual abilities seem to be impaired. Mental or family systems belong to such complex fields that this potential cannot be masked even in pathological states.

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