

The non-existence of non-compliant families: the influence of Humberto Maturana*

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Non-compliance is not only an epistemological error but a biological impossibility. This profound statement arises from the influence of Humberto Maturana's revolutionary meta-theory of cognition. The definitions and significant implications of two major theoretical concepts of this meta-theory of cognition, namely structural determinism and objectivity-in-parenthesis, are discussed. These radical concepts challenge the approved North American Nursing Diagnostic Association's nursing diagnosis of non-compliance. Maturana's theory reveals the impossibility of instructive interaction, leading the authors to conclude the non-existence of non-compliant families.

INTRODUCTION

In the nursing of families, expectations exist that families will comply with ideas and advice that could promote, maintain and/or restore their health. When families are not compliant with nursing interventions, nurses frequently interpret this behaviour as an unwillingness or a lack of readiness to change. This linear view implies that problems with adherence to treatment regimens reside within individuals and families, not in the interactions or relationships between individuals. In the authors' opinion, it is arrogant, insulting and violent to label families as non-compliant.

However, if nurses choose to apply some of the ideas of Chilean biologist Humberto Maturana, such descriptions as non-compliant, resistant and unmotivated are questioned. Based on the science of biology, Maturana (1978, 1983, 1985, 1988) offers an intriguing meta-theory of cognition. When this theory is applied to nursing prac-

tice, the nursing diagnosis of 'non-compliance' is not only an epistemological error but a biological impossibility. This revolutionary theory invites nurses to re-examine their assumptions about the existence of non-compliance and challenges North American Nursing Diagnostic Association's (NANDA) classification system. It has radical clinical and ethical implications for nursing practice.

THE CONCEPT OF STRUCTURAL DETERMINISM

A major proposition of this theory is that all living systems, including humans, are structurally determined. It is the individual's structure and history of interactions that determines change in his/her state or a change in his/her behaviour. It is not nurses that determine or direct change.

Maturana's meta-theory of cognition evolved from the most unlikely of experiments, experiments examining the structural mechanism of perception in frogs. Maturana *et al* (1960) discovered that the 'function of the retina in the frog is not to transmit information'. They further concluded that

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'the transformation of the image [not transmission of the image] constitutes the fundamental function of the retina' What a frog perceives visually has been transformed by the retina in a manner that is specific to the organization of the frog's nervous system. Thus, perception is not a picture of the world coming in and recording on the frog's brain (Simon 1985) but rather it is the frog's structure which determines its own reality.

Maturana *et al* (1968), when describing a biological theory of colour coding in the primate retina, concluded that the activities of a nervous system do not reflect an independent environment and therefore do not reflect an absolute external world. Maturana and his colleagues (1968) also concluded that an animal's interactions with an environment were best represented by the animal's own organization and not by an independent external reality. Since the basic architecture of the nervous system is universal, Maturana extended his earlier ideas related to the visual perception of frogs to the perceptual process of primates, which of course includes human beings. What is perceived by an individual is always a result of transformation within the structure of the individual.

The revelation that all living systems cannot refer to an external, independent reality becomes not only a philosophical reflection but a constitutive biological condition of humanity (Mendez *et al* 1988). The uniqueness of Maturana's theory is that it reflects an epistemology in which individuals (living systems) draw forth reality — they do not construct it nor does it exist independently of them (Maturana 1988). Therefore, change or learning occurs in humans from moment to moment, either as a change triggered by interaction(s) or 'perturbations' coming from the environment in which it exists or as a result of its own internal dynamics. It is the history and structure of the living system that determines which perturbations can trigger changes of state.

EXPLANATIONS OF OUR WORLD

Maturana offers the idea that there are two possible avenues for explaining our world: objectivity and objectivity-in-parenthesis.

Objectivity

This view assumes that there is one ultimate domain of reference for explaining our world. Within this domain, entities are assumed to exist independently of the individual. Such entities are as numerous and broad as imagination might allow and may be explicitly or implicitly identified as

objects such as 'truth', 'mind', 'knowledge', and so on. These entities are used to justify and validate explanations. In this avenue of explanation, we come to believe that we have access to an objective reality.

Knowledge about the 'truth' by one person becomes a demand for obedience by another, for example, a nurse's expectation of compliance by families. Maturana (1987) claims that the view of an objective reality entails the possibility of conflict (a mutual negation) which may lead to emotional contradiction. An act of 'violence' which is 'holding one's opinion to be true such that another's must change' (Maturana 1987) may result from conversation which is based on descriptions of 'truth'.

The label of non-compliance arises in this domain of explanation. Non-compliance is one of the NANDA approved nursing diagnoses under the category of 'Choosing' (Carroll-Johnson 1989, Carpenito 1991). Specifically, it has been defined as 'a person's informed decision not to adhere to a therapeutic recommendation' (Carroll-Johnson 1989). When nurses operate in the domain of objectivity or empiricism, they believe and behave as if they have access to an objective reality, that is, that their observations/assessment of a family member's behaviours are 'true'. Consequently, within this domain, nurses can fall into the trap of believing that individuals and families are non-compliant and that families should adhere to nurses' advice and opinions. They also invite the possibility of conflict and violence between them and their patients.

Objectivity-in-parenthesis

When objectivity is placed in parenthesis, nurses recognize that objects do exist but are not independent of the living system that brings them forth. The only truths which exist are those drawn forth by observers, such as nurses. 'Without observers nothing can be said, nothing can be explained, nothing can be claimed. In fact, without observers nothing exists because existence is specified in the operation of distinction of the observer' (Maturana 1988). Distinctions made by an observer of what appears to be stimulus (input) and response (output) of the nervous systems is not a property of the nervous system, but rather a property of the domain of observations. Thus, brain and behaviour are only linked in the eyes of the observer. As Maturana (1985) states, 'the mind is not in the head, it is in the behavior'.

Drawing distinctions is the basic cognitive operation of the observer. Cognition may be defined as the act or process of knowing including both awareness and judgement. Cognition is not a representation of the world 'out there',

but rather an ongoing bringing forth of a world through the process of living itself. Therefore, it is always in our co-existence with others that we are bringing forth reality. Humans literally create the world in which they live while co-existing and co-drifting with other human beings. It is human activity which brings forth and validates human activity.

Maturana (1988) claims that we exist in domains that we bring forth through living and 'they are domains of realities, domains of explanations that we present for explaining our experience, in the understanding that we cannot claim anything about an independent reality'. Every explanation is a reformulation of our experience. Our explanations are conveyed through narratives which embed the meanings (beliefs) we have about our experiences. It is these beliefs that nurses' clients have about their experiences — such as chronic or life-threatening illness — that are central to how they cope with them.

In applying this idea to the nursing of families, every family member has his or her own reality or perspective of his/her experience of illness. Nurses need to encourage the expression of each family member's reality. For example, if each family member is asked, 'What is your point of view on how your mother is coping with her multiple sclerosis?', many different perspectives or realities will be drawn forth. Based on the concept of structural determinism, each reality must be considered as 'true, valid and legitimate'.

The idea that humans bring different perspectives to their understanding of events is not new. But Maturana's perspective on observations is much more radical. It is based on biology and physiology, not philosophy. Maturana states that not only do we have different views or perspectives on a given event but that the event itself has no existence separate from our ability to distinguish it in words and symbols (Maturana & Varela 1992). One's view is not a distortion of some presumably correct interpretation. Instead of one objective universe waiting to be discovered or correctly described, Maturana proposes a 'multiverse', where many observer 'verses' co-exist, each valid in its own right.

Mendez *et al* (1988) state

If we claim that the biology of the phenomenon of cognition demands that we operate with objectivity-in-parenthesis, then we can no longer keep the notion that we have a legitimate transconsensual authority of power to decide what happens to another human being, based on the demand for obedience that the claim of objective knowledge entails. Indeed, putting objectivity in parenthesis entails the explicit recognition that the desirability or undesirability of any given behavior is socially determined, and that we cannot go claiming that something is good or bad, healthy or unhealthy in itself, as if these were intrinsic constitutive features of it.

Within the domain of objectivity-in-parenthesis, we cannot claim that a family is non-compliant. Therefore, nursing assessments are based on observer perspectives and not ultimate truths.

THE IMPOSSIBILITY OF INSTRUCTIVE INTERACTION

Instructive interaction implies that a living system is able to receive instructions from the environment, in the form of information to be processed (Aboitiz 1985). It assumes that individuals can specify structural changes in other individuals through instruction. Maturana & Varela (1992) make the startling declaration that there cannot be an instructive interaction. This notion emerges from the central assumption that living systems are self-organizing. The nervous system is an informationally and operationally closed system. As a closed system, it is the nervous system that determines the changes of relative neuronal activity, it is not the perturbation that determines the state of the nervous system. Information or instruction cannot be imported onto someone, it can only be offered as part of an interaction. How an individual responds will be determined by their structure at that point in time. If living systems were 'instructable' they would all respond the same to a given perturbation. It is the system in constant interaction with its medium that specifies how it will behave, not the information or instruction.

Structural changes in living systems are unique and are dependent on the phylogenetic history (genetic or evolutionary history) or ontogenic history (all the past structural changes or history of interactions) in the life of the organism. Thus, changes in family members are determined by their own structures and not by others. Therefore, nurses are not change agents; they cannot and do not change anyone.

A scenario

Consider the following scenario. A cardiovascular clinical nurse specialist (CNS) conducts a weekly smoking cessation clinic for cardiovascular patients and their families. The CNS provides relevant literature informing her cardiac patients about the risks of smoking and promotes a variety of strategies for patients to decrease and eliminate smoking behaviour. She is puzzled by the wide range of responses to her nursing interventions: some patients stopped smoking almost immediately, others decreased their smoking behaviour, while still others remained firm in old smoking habits. Clients who fall into this latter category may be quickly

labelled as 'non-compliant' However, an implication of Maturana & Varela's (1992) theory is to recognize that such clients are not 'non-compliant' but rather have not selected a particular novel perturbation which invites them to decrease their smoking

THE POSSIBILITY OF COLLABORATIVE INTERACTION

If instructive interaction cannot exist, how can we as nurses impart ideas about health promotion and health restoration? Maturana offered the following suggestion.

You will never be able to do instructive interaction. The most that you can do is to talk to the patient and invite this person to a reflection that will allow the realization that there is an illness and that there are certain actions that he or she has to take. You cannot force the other to an understanding.

(H.R. Maturana, personal communication, October 1988)

Inviting individuals and families to a reflection can be accomplished by creating a context for change, creating an environment in which persons change themselves, offering ideas, advice and suggestions that can serve as useful perturbations. By remaining curious about family members' beliefs about their illness, nurses can help patients and their families to discover which perturbations (i.e. interventions) will trigger structural changes which will result in more effective responses to health problems.

Through collaborative interaction with families, nurses can also eliminate what has been called the 'language of loathing' (Szasz 1973) and liberate themselves and families from the language of pathologizing. Labels such as non-compliant, resistant and dysfunctional become irrelevant, disrespectful and insulting descriptors. More importantly, when applying Maturana's theory of meta-cognition to nursing practice, these behavioural descriptors are biologically impossible.

One of the assumptions of non-compliance is that relationships between nurses and families are hierarchical (Stanulis & Ryan 1982). It would be more respectful and more humble for us to think of ourselves in non-hierarchical, collaborative relationships with families, that we are involved in co-drifting with families creating a context for change rather than believing we can be change agents.

Conserve rather than change

To move towards more collaborative relationships with families, the authors often find it useful in clinical practice to

ask families what they would like to conserve rather than what they want to change. This is also a very useful intervention on themselves as family nurse clinicians (Wright *et al* 1990). They attempt to design interventions which invite families to a reflection (Wright & Nagy 1992, Wright & Simpson 1991, Wright & Watson 1988). Interventions which invite reflection have the potential of being selected perturbations. Family members who respond to particular perturbations (i.e. therapeutic interventions) do so because of the fit between the perturbation and their structure.

CONCLUSION

One question still remains. Are there risks of being too enraptured with Maturana's meta-theory of cognition? The authors believe one risk of embracing Maturana's theory with overwhelming enthusiasm is that nurses would behave with too much certainty. If they are too enthusiastic or certain about Maturana's theory, it becomes too 'true'. This 'truth' becomes a tyranny because we end up submitting to an external 'truth' which is the very idea that Maturana is challenging. However, there is one occasion when nurses need wholeheartedly to embrace Maturana's theory, that is, whenever they encounter the impulse to pathologize families as non-compliant.

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