

Chapter 8

Fascinating Interfaces and Systems: Integrating Biology, Psychology and Social Sciences in Teaching, Therapy and Coaching

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Synopsis To help people and families who do not function optimally, as a therapist or a coach, you need to be “Always confident but never certain”. You need to be a confident leader of the process. To be confident you need a therapeutic map to quickly find your way in the ever new and ever changing territories that these individuals and families represent.

Once you become certain however, you become dangerous, because you are no longer open to feedback. Therapists become certain when they treat the map as if it were the territory. They also become certain when they believe in their intuitions. Although all kinds of unscientific psychobabble claim the contrary, it’s better not to follow your intuitions. Research on the role of intuitions in decision making shows that they are 50/50 bets, unless these intuitions are learned under specific conditions (Kahneman and Klein 2009).

Every therapeutic strategy is nothing but a hypothesis, inspired by your therapeutic map, but that needs to be tested in a continuous learning process of trial and error.

In this chapter the author describes his therapeutic maps at different levels: the level of epistemology, the level of methodology and the level of technique. He suggests an eco-psycho-somatic approach to therapy to better integrate relevant knowledge from different scientific domains and to pay special attention to what goes on at the interface between them.

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Therapy in the Heart of an Eco-psycho-somatic Model

As you see in the references and acknowledgements, my contribution to this book is also the story of a fascinating professional journey.

As a medical student I was always very interested in the interface between different fields of knowledge, especially psycho-somatics. Later, working with families I used what's sometimes named a socio-psycho-somatic model.

Working in Philadelphia with families from the ghettos and being confronted with the awful living conditions in which many of these families had to survive, I converted this into my own Eco-Psycho-Somatic model (Compernelle 1980a) (Fig. 8.1), initially mainly for teaching. As a family therapist I choose the word Eco because it comes from the Greek word OIKOS=house and because it creates a link with the dire material and economical context of these families while including the social aspects. At the same time I was working with patients from very wealthy families and a family from the mafia, which further enriched my ideas about "ecological" factors.

There are four interfaces and the fascinating heart of the model is where the three domains interface. Reflections about problems, challenges, pathology, solutions and collaboration can be widened and deepened by putting them in the heart of the model.

The model was used for research and teaching not only about therapy but also about for example: Paediatrics (Compernelle 1980a), Anorexia nervosa (Compernelle 1981b), Alcoholism (Compernelle 1981a), Stress in schools (Compernelle 1987),

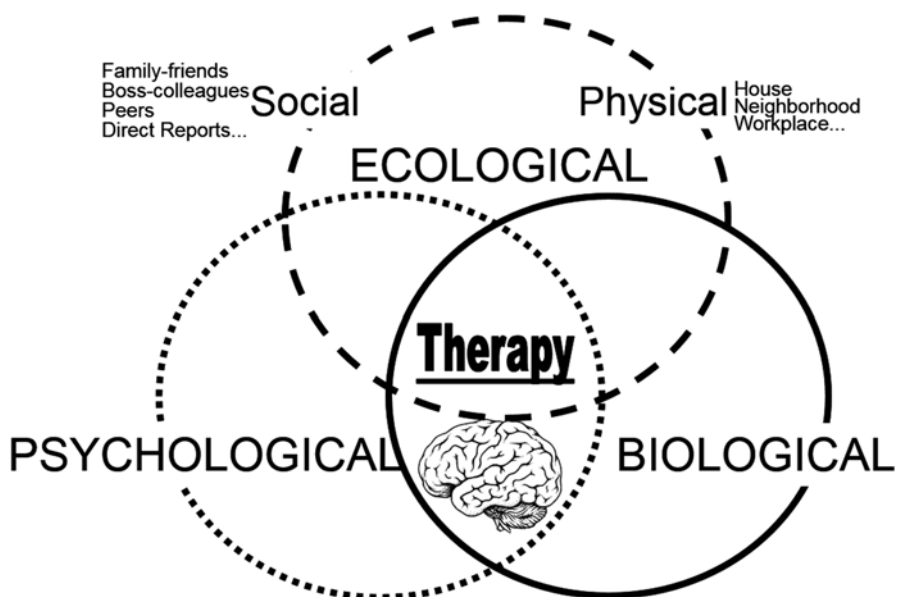


Fig. 8.1 An eco-psycho-somatic model for therapy (Compernelle 1980a)

Stress at work (Compernelle 1993, 1999, 2000), Family Businesses (Compernelle 2002), Executive coaching (Compernelle 2007), Knowledge work (Compernelle 2015a) and Open offices (Compernelle 2015b).

Distinguishing Epistemology, Method and Technique

Quite some family therapists tend to equate “system” with “family”, thus thinking that a “family approach” is the same as a “systems approach” and vice versa. They forget that an individual, the brain, a single cell, an atom or society are systems too. One can work with a family using a non-systemic, reductionist model: isolating the family from its context, seeing the family as the cause of the symptom. On the other hand one can very well do individual therapy using a systemic method: seeing the individual as only one level of organization, interacting with other levels, itself being constituted of interacting parts etc. (Compernelle 1980a, b, 2007, 2015a, b; Spronck and Compernelle 1997).

The early descriptions of the Palo Alto group (Watzlawick et al. 1967), for example, about schizophrenia and the double bind, were not “systems oriented” at all, but very reductionist isolating the family from its context, thinking in linear cause—effect relations etc. This was a family view but not yet a systems view, neglecting everything that was known about schizophrenia at other levels.

Jay Haley (Haley and Hoffman 1967) as another example had a systemic view on the family of a person with schizophrenia when he describes the interactions of the person suffering from schizophrenia with the other family members. At the same time he is very non-systemic reductionist when he saw schizophrenia as only a family problem, without taking into account existing knowledge on other levels of organization and especially the role of biological and genetic factors.

The structural therapy model was an exception that helped to integrate not only knowledge from family therapy with knowledge from medicine and child development, but also to integrate the roles of paediatricians, teachers and street workers, collaborating with family therapists, specifically for the treatment of children and adolescents with diabetes, severe asthma and anorexia nervosa.

Epistemology

In the area of epistemology, the people who influenced me most were Ackoff (1974), Ashby (1956), Bateson (1972), Emery (1970), Maruyama (1997), Miller (1978), Miller and Miller (1995), Prigogine (1999), Rapoport (1984), von Bertalanffy (1969) and Guntern (1981).

I try to avoid the word “Systems theory” because von Bertalanffy (1969), who coined the word, originally used the German word “Lehre”, which does not have an English equivalent and was translated as “Systems theory”. It would have been better

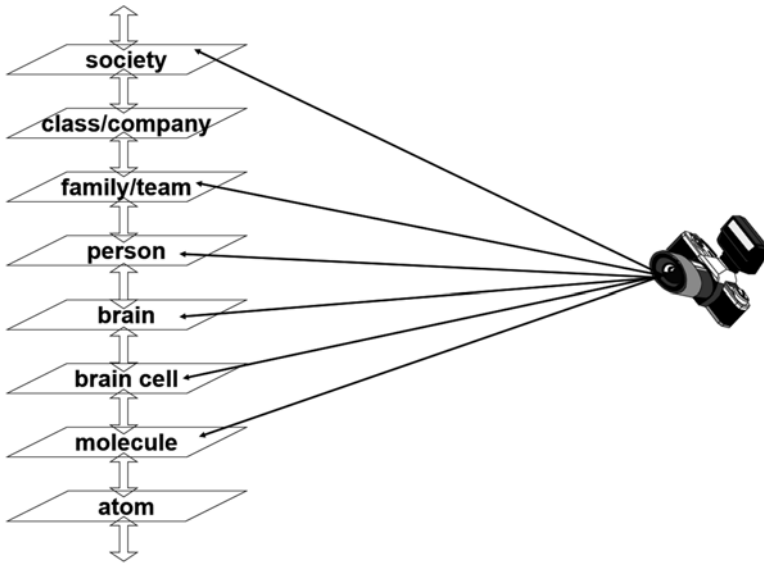


Fig. 8.2 The systems vies as a zoom-lens

translated as “view”, “epistemology” or even “philosophy” because this is not a theory in a scientific sense, e.g. being testable and refutable.

To use Miller’s (1978 p.9) definition in his classic “Living systems”: “General systems theory is a set of related definitions, assumptions and propositions, which deal with reality as an integrated hierarchy of organizations of matter and energy *and information*” (*and information* added by myself).

To use a metaphor: The systems view is like a zoom lens keeping us aware of the fact that one can always zoom in and out to different levels of an organization, *without losing focus*. Each level is a subsystem of the next level above and a supra-system for the next level below (Fig. 8.2). For example, one can zoom out from the biological level of the brain cell, to the brain, to the human individual, to the team (or family), to the company ... and then reverse the process. With a systems orientation, one is continually aware that different observations at each level, lead to different theories, different hypotheses, different research and different interventions. Going from one level to another does not imply an increase or reduction in complexity; each level has its own complexity.

The level you choose to study and to intervene in depends on your interest, training, goal, knowledge, tools, capacities, power etc.

It is impossible to predict the behaviour of a system at one level with only knowledge about its parts at the lower level, because we also need to understand the interactions, or the relationships, between the units. In other words, the system is something altogether different from the sum of the parts. For example, one cannot predict the quality of a couple based on knowledge about the individual partners from before they married. The behaviour of couples and individuals are governed by different rules. The whole is not the sum of the parts, it is something totally different.

The other side of “the whole is different from the sum of the parts” is that “the part derives properties from the whole that it does not have itself in any other context”. A simple example from linguistics: it is totally impossible to know the meaning of a word or a message without knowing the context (see also Bateson 1972). In systems thinking, linguistics, cybernetics, mathematics, sociology, economy, chess, genetics, embryology, philosophy etc., these properties are often called *Positional Value* or *Extrinsic Properties*.

This is a very fundamental concept that got somehow lost in family therapy. It is also very useful for training and teaching family-therapists, especially to remind them that many crucial behaviours and emotions do not at all find their cause “deep inside” but are influenced, if not determined by the context, e.g. the family. These characteristics cannot be discovered outside the family, even not with the most extensive testing, nor in many years of psychoanalysis.

Imagine you want to study the value of the white knight in a game of chess, concentrating on only the knight, you will miss the most important features. You may study thousands of individual knight pieces, and learn a lot about wood, plastic, ivory, realistic and abstract representations. You may even delve down into its molecular and atomic composition, but you will learn nothing about the value of the knight in a chess game. You can move one systems level up and study the knight in an actual game, but only looking at the knight. You will discover the interesting fact that knights jump over other pieces and that they always go two steps ahead and one to the side or the other way around. Very interesting, but you still know nothing about the value of the knight in a game. It is only when you study the knight in an actual game, all the time taking into account its relationship with all the other pieces on the board, that you will learn something about the value of that knight in that game. You will then also discover that the value of the knight changes with every move by the other pieces. The knight obtains his most important qualities from the positions of all the other pieces on the board.

Another example of extrinsic qualities: nobody, not even using the most sophisticated psychological tests and analysis, can determine my qualities as a teacher for large audiences in any other way than by observing me while teaching. As a teacher, I derive properties from the teaching situation that I do not have in any other situation, and certainly not in a one-on-one test situation. Going into the other direction: nobody can discover my qualities as a teacher by studying my brain as a whole, the cells of my brain, the chemicals they produce, the molecules, the atoms.

The only way to discover the qualities of the whole system as well as some of the most important extrinsic properties of the parts is by studying it as whole, taking into account the relationships between the interacting units. That is one of the reasons why I like so much Minuchin’s (1974) technique of enactment, where in the session one tries to elicit interactions in the family as close as possible to what’s going on in the family at home.

In my current work with executive teams, the systems lens keeps me aware of the fact that one can study a phenomenon, such as leadership or the functioning of a senior leadership team, on many different levels, making observations on a particular level leading to a hypothesis valuable for that level only and interventions specific for that level (Compennolle 2007).

Working a lot with “psychosomatic” disorders, S. Minuchin and his team at the Child Guidance Clinic in Philadelphia were very aware of the role of neurophysiological processes and we collaborated closely with the paediatricians of the Penn University Hospital. It was very different from the reductionist approaches in other family therapy schools where one tended to see the family level as the most important if not the only level. For me this integration of the biological, psychological and social systems was one of the major reasons why I choose Structural Family Therapy as my preferred method. Another reason was that having drawn a structural map, the issue of cause and effect, guilt and blame, becomes irrelevant.

Causality

Ideas about causality lead the behaviour of therapists much more than they think. We are so used to thinking in terms of cause and effect, that we forget that causality is only a concept. We think that it is self-evident that an event now causes another event later, or that the problem we observe now must have a cause in the past (Fig. 8.3). In addition, from a reductionist view of the cause–effect relationship, one tends to look for the one and only cause that explains the effect in a straightforward, linear way.

LINEAR CAUSALITY

exigent father → more effort → father not satisfied → trauma → outstrip father → neurotic risk taking

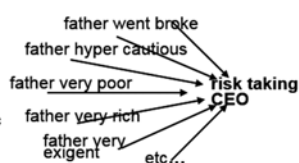
MULTI-CAUSALITY



MULTI-DIRECTIONALITY



EQUI-FINALITY



UNIQUE STOCHASTIC PROCESS

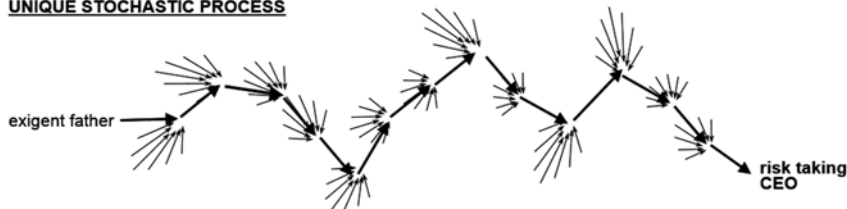


Fig. 8.3 Different kinds of causality

Theories of linear causality underlie approaches like psychoanalysis and traditional behaviourism. Thinking in a linear, causal model, the effect will be found if the cause is discovered and the cause will be detected if a particular effect is manifest. This leads to a model of chronological homogeneity or linear causality, where A (cause) leads to B (effect) directly and in one way only.

In single case studies, for example, one may repeatedly find a distant, punishing father in the history of narcissistic leaders. Within a linear causal model, therapists will therefore tend to see this type of father–child relationship as a cause of behaviour in adult life (Fig. 8.3). When they do not find any trace of such a father–child relationship, they will still keep to their cause–effect theory and conclude that this relationship has been pushed away into unconsciousness, rather than doubting their theory.

Families involved in these relationships too are usually not aware of the way their behaviour is influenced by interpersonal patterns of interaction. They too use a linear causal model, ascribing the cause of the problem, the blame, to other people. This sometimes leads to a power struggle about the cause, not only between family members but also between therapists and family members.

In the first half of the twentieth century, scholars and therapists realized that human behaviours and interactions cannot be fully understood, nor adequately changed, if they are seen as a link in a linear chain of events. It was recognized that, at any point in time, the actual situation is the result of many concurring influences. This is the notion of “multi-causality” (Fig. 8.3). Each of these concurring influences has a different and changing impact, because it is also in its turn influenced by many other factors. At every step in the chain, multiple directions can be taken, leading to a process wherein randomness and chance play a major role (Fig. 8.3).

Multi-causality leads to the notion of multi-directionality, in other words, any given starting point can lead to very different pathways (Fig. 8.3). Bifurcations appear all the time. All branches are possible, but only one of them will be taken, depending on the influences at that point.

This is one of the reasons why prospective studies often cannot reproduce the results of retrospective studies and why one should be very careful with their conclusions. Sometimes, a “cause” found in retrospective studies doesn’t have a significant impact at all in prospective ones (Dutra et al. 2009). One should not forget that when one finds, for example, that 20% of children who suffered from a particular childhood event develop mental problems, this may be a very significant number, but that 80% developed normally. Hence, the “cause” is always only one of the many influences that determine the outcome.

The cause–effect reasoning sometimes becomes problematic in therapy. First when therapists think that “*a* cause” they sometimes find in retrospect, such as oedipal triangulation or sexual abuse, is “*the* cause” and if one does not find that “cause” it must have been repressed. Secondly when their focus on the supposed cause prevents them from seeing and dealing with other or more important influences.

On the other hand, in different people the same behaviour and attitudes are the result of totally different histories. For example, in different people epileptic seizures, which often look like carbon copies of each other, can be the result of totally

different events, such as a childbirth trauma, an infection, a car accident or a drug. In the same way, the reckless behaviour of a CEO can be the result of an extremely demanding father, a permissive father, a risk-averse father seen as a loser, a culmination of very gradual increases in risk-taking reinforced by positive results, an all-or-nothing attitude in situations of being cornered, boredom in the job, etc.

This is called “equi-finality” (Fig. 8.3) or to put it more simply, many roads lead to Rome. In the context of such chronological heterogeneity, looking back for the “real” cause in a chain of events does not make any sense whatsoever.

Ascribing a cause that starts a chain of events is totally random: this is sometimes called making an arbitrary interpunction. When, for example, two children fight, parents sometimes try to find out who started the fight. When one analyzes a video of an actual fight, it becomes clear that every behaviour seen as the “cause” of the fight by one child, is preceded by more or less subtle behaviour by the other child that “caused” this “cause”, and that the event sometimes even was influenced or “caused” by (not so) subtle behaviour by the parents themselves or other influences in the context.

Here the traditional notion of cause and effect completely loses its meaning. In cases like the one described above, the term “circular causality” is sometimes used, indicating that in interactions between people, while a source may trigger an effect, this in turn has an impact on the source. But even that way of thinking is of limited help, and if one uses this model to simplify complex interactions, one should never forget that it’s just a simplification, a very simple map, a concept, not reality.

By the way, the systems view also made me realize how extremely reductionist medicine is. All the time physicians and researchers look for *the* cause of a disease and every time they find there is never one cause but always a system of many factors, at different levels, that together make the difference between health and disease. They forget that bacteria do not “cause” a particular infectious disease. The disease is always the result of many factors such as the virulence of the bacteria, the number of bacteria, prior exposure to the bacteria, the specific immunity of the person, her general immunity, her general health, her levels of stress, her age etc. As a result many people who are infected with a bacterium never get ill, or can be cured without attacking “the cause” with antibiotics, but by improving the other influences.

Guilt, Blame and Pathology

Linear cause–effect theories, when dealing with people, unavoidably introduce guilt and blame in the discourse. When parents are seen as the cause of disturbance in their children, they get the blame, to the extent that the most terrible things have been written, for example in psychoanalytical literature, about the mothers of children with autism or anorexia nervosa.

The mere description by a therapist of problem behaviour or problematic relations in terms of cause-free, blame-free and guilt-free patterns of interactions can provoke a deep relief and free people to behave differently.

Moreover, when the therapist does not use a linear causal model, he manifestly does not blame anybody himself. This has a very fundamental impact on his relationships with his clients. Therapists who think linearly and reductionist in terms of cause and effect, cannot avoid looking for culprits. A therapist using a linear model will try not to blame anybody, but merely by thinking in terms of cause and effect, he *is* blaming. Analysis of videotapes we made in training-situations of therapists who were used to a reductionist linear thinking model, clearly showed that the blaming often happened in subtle, non-verbal and verbal ways, of which the therapists were unaware. For example, at the beginning of the training program, a very emotionally intelligent French child-psychiatrist, whose psychodynamic model made him think that the psychopathology of the mother was the cause of anorexia nervosa, was unaware of the fact that in a session with the family whenever the mother started talking he would spontaneously cross his legs, lean back and cross his arms. When he uttered statements of support to the mother, at the end of the sentence his tone of voice went up, making it sound like question, as if he doubted what she said. Even a simple affirmative “Yes” sounded like “yes?”. He was shocked when we analyzed the video of that session. Notwithstanding this experience, he later unknowingly behaved similarly with the mother of an autistic child. Of course he did not want to blame, but he was blaming because his model made him see these mothers as the cause of the problem. It took some time, but his spontaneous behaviour towards mothers changed when he progressively became convinced that the behaviour of the mother was also “caused” by the daughter, the son and the father in a rigid pattern of interactions.

Hence the best result a linearly thinking therapist can hope for is not to *appear* to be blaming. In reality this is very difficult, if not impossible. The client will leave the session with a feeling of being blamed even if not a single blaming word has been spoken.

The blame of therapists is often wrapped in the notion of pathology. However, from a systems point of view, whether behaviour can be labeled pathologic or pathogenic depends on the social space in which it takes place and the arbitrary choice of the systems level and boundaries. A particular behaviour can be considered constructive or positive within the realm of one system or one level, but at the same time destructive and negative in the context of another system or at another level of organization.

Being a scapegoat, for example, can be very destructive for the child concerned, but at the same time it can be positive for the survival of the couple or the family. Becoming indifferent can be life-saving psychological flight behaviour for an individual in a disturbing, stressful work situation, preferable to suffering from a heart attack or burning out. On the level of the team or the company, however, it is a big problem if many people become indifferent.

The systems oriented therapist or coach no longer deals primarily with hypotheses about possible causes in the past, but with patterns of interaction in the present, at different systems-levels, in which the search for *the* cause is no longer relevant. At that point the therapist does not need to try not (to appear) to blame people, she *is* no longer blaming.

One of the reasons I like “Structural Family Therapy” (Minuchin 1974) is that S. Minuchin’s way of trying to draw maps of a family helps to describe the relationships without implying cause–effect, hence without implying guilt and without blaming.

The Level of Methodology

From a systems point of view many very good hypotheses (explanations) co-exist on different levels at the same time. Observations (research) and hypotheses for example about the continuation of violence on the level of the family does not exclude very different observations and hypotheses on the level of the individual, society or even about the neurobiology of violence.

Templates and metaphors developed as part of a particular method help us to understand and communicate about the complex reality. They focus us by simplifying.

A first issue about our models is that too often practitioners and researchers in family therapy, psychotherapy and coaching think and behave as if their theories and metaphors are reality. They treat the map as if it were the territory (Korzybski 1933; Bateson 1972). Freud, for example, developed some of the most beautiful metaphors in psychology. The Oedipus triangle was certainly fascinating and inspiring for many. Problems arise when such metaphors are treated as if they really exist, and even more so when they are taken as universal “truths”. The same is true for family therapists who think “boundaries” between people really exist. Therapists forget the original “as if”. They do not say “it is *as if* unconsciously...” but “Unconsciously she ...”, not “it is *as if* there is a boundary...” but “there is a boundary”. The metaphor, the concept becomes a thing. Indeed, when clinicians fight their turf wars, they actually forget that they are often fighting about metaphors more than about reality.

The systems point of view acknowledges that these concepts are extreme simplifications of reality and that is what they should be. If a map were a true representation of reality, it would actually lose its usefulness, to the point where a simpler map would be needed to understand the complicated map. Secondly, one can make very different maps that refer to the same territory, depending on the goal or interest. To get as quickly as possible from Amsterdam to Paris a very simple map showing only highways is sufficient. To visit Paris a detailed tourist map is required. To the engineer responsible for checking the pipelines buried under Paris all these maps are useless: he needs a custom-made map for his specific purposes. Thirdly, not all maps are reliable. Anybody can invent a new theory or a new psychotherapy method. Even a psychotic person follows his map, but usually his map is not sufficiently reliable to help him to find his way in the real world. Although all kinds of unscientific psychobabble claim the contrary, it’s better not to follow your intuitions. Research on the role of intuitions in decision making shows that they are 50/50 bets, unless these intuitions are learned under specific conditions (Kahneman and Klein, *American Psychologist* 64(6):515, 2009). Therapists need scientific research to find

out if a particular map is a trustable representation of reality. A fourth issue is that therapists often think that the success of interventions based on a particular method proves their theory. This is a common error. Homeopathic healers, for example, believe that water has a memory, and that a solution of one in a billion is therefore still effective. There are about 40 scientific ways to prove that this theory is completely wrong. In practice, however, homeopaths cure people with their solutions regardless of the theory being wrong because of the placebo effect. Therefore, the success of homeopathic methods does not prove that water has a memory and that a solution of one in a billion can have an impact. Prayer can help people to overcome major difficulties, but that does not prove the existence of God. Exorcism is sometimes a very effective method of treating major disturbances, but that does not prove the existence of the Devil.

In brief: clinical methods, metaphors and templates are helpful and necessary tools for a better understanding of a very complex reality, and as subsequent guides to our interventions. They help therapists to become confident guides. They trap us when we reify them, start believing they are “the truth” and become certain. Therapists should be confident but never certain.

The Level of Technique

In all the family therapy methods or schools, not only therapeutic maps were developed but also more or less *specific techniques*. The more a method is systemic, the easier it is to integrate techniques from other schools, even those developed in very reductionist non-family oriented methods of psychotherapy or medical practice. Another advantage of structural family therapy for me was that it was easy to integrate the techniques from other schools of therapy that I had learned before and after.

Some techniques work well on the brain level, others on the individual level, others at the family level, others a societal level etc. There is nothing wrong with intervening at those different levels as long as one does not proclaim the supremacy or superiority of one of those levels, certainly not the family level.

Therapists should give priority to techniques about which at least some outcome research shows that they make a difference. If they use a technique that has no support or if they creatively invent a technique on the spot, they should be twice as critical towards their interventions, and try to follow up on them while thinking about the issues mentioned above.

Conclusion

Systems “theory”, or developing a “systems zoom-lens” will help a therapist or coach to integrate learning from very different disciplines and schools. Medicine, neurology, biology, psychiatry, psychotherapy, management, and family therapy for

example are not in conflict with each other but they deal with different system-levels. On these levels one can make different observations, different hypothesis leading to different interventions. One can never totally understand what happens on one level only based on knowledge about other levels. One cannot, for example, fully understand what happens at an individual level with only knowledge about the family and vice versa. For the therapist this idea greatly widens her scope of observation and intervention.

The liberation from the reductionist cause–effect thinking eliminates the resulting paralyzing issues of guilt and blame. From a systems point of view, nobody is to blame, but everybody is responsible for the necessary change in the pattern of interactions.

Finally, this systems point of view jettisons most turf fights and power struggles between professionals from different schools and disciplines and improves collaboration.

Ideas about why people and families behave as they do are resolved when these ideas are no longer formulated as truths, but as simplified representations of a part of reality at a particular systems-level and as hypotheses to be tested all the time in the therapeutic process,. This does not mean that all methods and techniques are of equal value. We need research to find out how efficient and reliable they are.

Acknowledgements I am extremely lucky not only because in my career I got more than I strived hard for, but also because I have enjoyed so many fortunate serendipitous encounters with very inspiring people.

It was a fascinating journey. As a dwarf on the shoulders of giants, I did not become any taller, but it gave me a better view. It lead me from medicine, to neurology, to psychiatry, to psychosomatics, to behavioural therapy, to family therapy, to systems thinking combined with stress research, to executive coaching, consulting and teaching managers the directions of use of people and last but not least, working with families with a business. The last 6 years I did research about the brain and how we ruin our intellectual productivity and creativity by using our information and communication technology without knowing the directions of use of our own thinking brain.

It would take dozens of pages of references to mention the writings of all the writers who influenced my ideas mentioned in this chapter. I learned a lot in personal conversations and workshops too. The most important live learning happened with the following, more or less in chronological order: L. Van Trotsenburg, E. Wassenaar, R. VanDijk, above all S. Minuchin with whom I collaborated for 2 years and also G. Patterson, M. Erickson, G. Bateson, G. Guntern, J. Haley, C. Whitacker, many colleagues, team members, trainees, students and especially the sometimes very humbling learning from patients and their families.

Looking back, my journey through family therapy was an unremitting and sometimes tempestuous learning experience. I am very grateful to so many fascinating creative people who got, and still get, me out of my comfort zone again and again.

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