



Incidence of Oral Health in Human Development.

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I - Historical framework

Democracy's advent in 1983 provided the University with the possibility of recovering its autonomy and thinking in a curricular reform.

In the health area, odontology faced an important challenge that led it to a progressactivity for that moment. Under the axiom "to democratize the health" it saw the need for self-evaluation of professional formation of that moment. To achieve those aims, a workshop activity was started inside the university community. It was ought to reflect on the docent activities and their disagreement with the relationship with students.

From that experience emerged, as a first frustration, the underestimation of odontology as a health's science. The concept of "medicine's minor branches" was very ingrained. It was associated with ancient practices effected by wizards, sorcerers and barbers. Society doesn't recognize odontology's problems as health problems.

Once recognized the institutional need of a curricular change and with the axioms "to democratize health", "to democratize knowledge" and "to democratize odontologist-patient relationship", the construction of a new paradigm was started to try to change hegemonic medical model.

Referred to the axiom "to democratize health", the establishment of minimal odontological practices that the State should provide to the population was thought. The concept of "primary attention strategies" was minted to enforce prevention over healing. It also meant a critical reading on technological progress and its rational use. A real interdisciplinary work was including, involving experts from the social area to interpret the patient as a biopsychosocial reality. Concepts of health-sickness were recognized as dynamic processes of complex etiological factors. If "health" is conceived as a physical, economic and social state of comfort, the need for diverse approaches is understood. It doesn't mean to arrogate other's knowledge, but to solve problems with other, each one contributing his perspective.

Referred to the aim to democratize the teaching-learning process other important axle was worked: to change the tradition of a Napoleonic and encyclopaedist university for a critical and reflective paradigm. Criteria to determine minimal curricular contents of grade formation and its coherent articulation with post grade were established, enforcing prevention concepts. I think it was one of the biggest difficulties because it should infer in the pharmaceutical industry and technologies. But the most critical was to confront medical insurance which, until present, haven't improved preventive practices' tariff over other mutilating actions. Professional's preference to bill for dental implants' codes over prevention ones are a clear example of this.

However I believe the problem is more complex and is also related with people's representations of odontology as a health problem. In a research work done by us it was determined that in many cases the cause for consultation was related to pain. Pain appears as an immediate mobilizer to seek help, but sometimes it's late

to perform minor tasks. From biologic point of view, pulp dental complex has morphological and functional characteristics that make it different from other organism's mesenchymal tissues. Pain plays an important role in the comprehension of dental functions. Good professional formation is fundamentally based in the knowledge to perform a thorough diagnosis of pain. The key of success in a treatment protocol's strategic planning is the ability to distinguish physiological from pathological pain.

To democratize knowledge

Deepening this axle and to accomplish curricular change's requirements, each subject should establish minimum and essential content included in analytic and exams programs in grade formation. It means to determine universal theoretical concepts that are in the basic architecture of specific knowledge. Conceptual support and theoretical articulation with other knowledge areas had to be determined. Finally grade formation's contents were analysed and articulated with post grade's contents (Endodontic specialization's post grade career was created with a formal study plan). This academic proposal was the first activity in the country and change the permanent formation's paradigm in force at that moment, in which post grade courses were managed by no formal institutions and weren't included in complete rational programs.

Other important aspects emerged from this workshop facing docents complains about students that can't articulate theoretical concepts with clinic practices. On the one hand scientific knowledge's demystification was intended and curricular activity was organised in practical theoretical modules with mandatory assistance, articulating theoretical concepts before clinical application and with a clinical approach going from simple tasks to more complex protocols.

In relation with the docent student relationship, the democratic opening forced the university to face creative challenges caused by the increase of enrolments produced by unrestricted ingress. Our major conflict was related with infrastructure since clinic rooms programmed for 80 students, received 250 and also because it was obsolete.

The need to strengthen the docent's image was also considered. Pedagogic and odontological formation aspects were worked. It was achieved that most docents moved to semi-dedication positions and most of them were the first pupils in post grade specialization.

Over time this docent work reflected on students, because as they felt more solid in their own practice, they were more open to students. Patient's benefits improved, however it's still frustrating that sometimes patient isn't seen as the work's object, regularization requirements are pursued over patient's needs. On the other side, odontology school was included into the science and technology system, which was exclusive to basic disciplines at that moment. After fructiferous discuss docents were categorized and started to participate in formal research activities inside the university ambit as well as in the SPU program.

To my understanding this marks a substantive change in odontology's social representation; we left our esoteric ancestors to get into the Health's sciences.

To democratise the teaching-learning process

Reflections in the workshop led to question feudal cathedras where professor's image was unreachable and master classes were major information's source. Pyramidal structure was criticised with the intention to democratise the workplace. Very departmentalised structures were pointed out and the '86 new study plan was designed with three departments:

- 1- basic
- 2- technical and clinical specific odontology knowledge
- 3- Social odontology.

The aim was to synchronise and articulate contents to avoid repetition of the same theoretical topic, as the adagio states "each teacher with his little book". Docents presented major resistance to change and over time they segmented again, mainly the specific.

Referred to master class, academic structure and its functionality regalement didn't accompany the proposal, because it clearly states different functions for titular, adjunct, practical works chief and auxiliary. Even though, more participative activities were tried.

The evaluation topic was critical and I think that an overcoming alternative hasn't been found yet. From my personal perspective evaluation must be daily and the docent's figure is fundamental to lead the students into the theory and clinical practice's articulation. I don't agree with written evaluations, mainly the multiple choice ones. The importance of final exams as an area's theoretical synthesis has also been pointed out. In order to avoid lottery drum system, alternatives related to subject's regularization requirements were tested. Those students that succeeded in all partial evaluations and fulfilled 100% of clinical practices proceeded to a final colloquium. Very scarce students achieved this path. The preparation of a topic to be developed during the exam was also tried, but this modality wasn't effective either, because students read only that topic and remained far from a final synthesis. Unfortunately, lotteries drum system had to be restored, principally as certain pressure instrument.

I think that evaluation is still a pending subject because we all have certain resistance to be evaluated. I can only contribute that I have always been heedful to each student's development in order to call their attention before the situation had become irreversible. I adopted a dynamic of discussing a problem with all present parts: the student with a problem to be solved, the docent and the main professor as a mediator. I'm satisfied to think that in many years as main professor I only left disengaged those students that quit by their own initiative. I can say with certain proud that 99,99% of conflicts were solved. The importance of dialogue and of solutions' pursue as a work team is meritorious.

In present times, one of the biggest communication problems is the change of generational codes, making mutual understanding more difficult.

To democratise Health

In this purpose the work was done according with regulations explicated on the Health National plan and guidelines emanated from the Odontology National Direction. Odontological health practices to be given rent-free to the whole population had to be established. At that moment national, provincial and municipal budget, all summed up, were more than solvents to cover population's needs. The determination of which practices the State compromised to cover was conflictive. Here, the main stumbling block was represented by industries and specific companies. The prevailing concept was odontological restoration and rehabilitation, disqualifying everything related with prevention. This way, the concept of Health's Primary Attention Strategies is stated, designating complexity levels in relation with the health-sickness process' advance. Social odontology's department starts creating, developing and strengthening prevention tasks inside the university as well as in outdoors activities. As a public institution, it returned to people for the sustenance of public education. But, even though we worked in a board integrated by professors and other odontological institution's representatives (Odontologists' college, graduates), we were accused of teaching Ford T cars' odontology. The resistance to change here was also very strong and, what is more important, at present time odontological nomenclatures underrate prevention's practices. Restoration and rehabilitation are better paid than preventive practices.

Other important aspect was the analysis of patient-odontologist relationship. Traditional experience sets the professional in an unquestionable role and the patient in a passive attitude. The revert of that relationship was intended by considering the patient as a bio psycho social unit and understanding health as a process that demands a shared commitment between parts and which distant tracing is important to keep health recovered. But cultural patterns related with odontology also set stumbling rocks here. In a research work, we demonstrated that people don't consider odontology as a health problem and most of the surveyed answered that they only go to dentist when there is pain involved.

Reality confirms those results and "they only want to get the pain out".

As time went by and prevailing politics changed, this relationship has deteriorated. The fear to bad practicing's trials has caused a big damage in the development of health activities. Fundamentally, it has destroyed reciprocal trust of both parts. Current knowledge supported by molecular biology proves that without that reliance, the organism will generate defensive signs that could attempt against the reparative response.

It is important to point out that health is recovered by the organism itself when the professional makes a proper diagnose, proposes the best treatment plan and can predict an evolution's prognosis of the case. Talking about regeneration and/or reparation would be other topic too extended to develop. (Ageno R 1984)(Resoluciones CD FOR-1985-1986)

II - Epistemological framework

a) Interdisciplinary. Its conceptualization

The concept "interdisciplinary" appears in the years 1970 as an educational innovation's alternative in response to the university rebellion of May '68. This line of thought was effective to legitimize university politics but it didn't find the path that would lead it to a different academic proposal and that would establish its epistemological framework enforcing research. This attitude led it into dinginess through the 80's, but a revival appears in the 90's. It could be said that concepts are being re-discovered, they were discovered but nobody seemed to remember. The proposal is to address *Teorías sin Disciplinas* de Castro-Gomez y Mendieta (1998) and it doesn't require justification, assuming it would take a critic to hegemony. It seems to be unknown that interdisciplinary emerges as a pro-enterprise right side's proposal. It will be considered that it isn't about proposals like post-colonial thinking. It involves different approaches intermingled with the concepts "multidisciplinary" and "transdisciplinary" that should be differentiated.

Apostel ⁽¹⁹⁷⁵⁾ assert that the first explicit formulation of interdisciplinary emerge as a pacification response to the university population, with a precise ideology but ambiguous enough to seem an overcoming proposal. But the segregation of practice and theory led university to get bond with enterprises, in detriment of science, with formation operating towards a profile clearly professional and efficiency oriented of private or State business, suppressing all critical thinking.

Transdisciplinary isn't a meritorious liberating invent from modern post-colonial thinkers. It's a proposal initially stated in a time when the post-modern didn't remotely exist. It was pursued in the own terms of a hegemonic modernity, and not from a negative or critical side. Modernity has passed through Occident history the idea of the world as a place to be dominated, to be exploded under a pragmatic rationality, disposed to rational calculation. These are the inter discipline's birth credentials. Of course, it doesn't mean it can't be thought in other term under different circumstances and from different conceptual frameworks. The no-authorization to state things as if nothing had happened before, as the appellation to inter or trans-discipline emerged now and here, as if we weren't obliged to clear equivocal or solve conflicts, remains clear if we want to occupy this terrain.

So this old conceptual novelty currently returns in diverse ways. One was intended by Wallerstein ⁽¹⁹⁹⁶⁾ with the Gulbenkian Commission, where the existing social science's crisis was assumed and they plead for the overcoming of discipline's distance. The proposal remained half-way between cultural studies' vindication and the own disciplinary difficulties' acceptance. Both proposals are irreconcilable.

Since this consideration the reasons to defeat boundaries between disciplines became antithetical for both approaches: Marxism and cultural studies. The last consider abolished every notion of social totality, to them it doesn't exist or deserve any kind of allusion, so fragments' variability appears as a repertory of analysis. Such flotation of differences would gain with mutual fecundation and combination; meanwhile, laxity of all genders, as well of boundaries between disciplines assumed, so no former unit is recovered, but an unheard polyphony of differences and accents is inaugurated. However, here, inter or trans-discipline works as a silent repetition of reality's disorder, pretending to catch it without any epistemic ordering (it returns to a pre-bachelardian epistemology of early XX century). So, in a pretended modernity's overcoming, scientific theory's constructive demands are

left aside as if they were a drag that can be left without problem. This way, inter discipline risks to become pre-discipline or anti-discipline.

According to Bachelard, as well as Bacon, there are elements inside intellect that difficult reality's actual knowledge disallowing spiritual proper evolution from a pre-scientific state, characterized by the objective, immediate, derived from senses, to a scientific state, characterized by current physical sciences.

Scientific spirit can't remain impassive in front of all knowledge areas' great changes; it has to transform, project itself, to create new methods for understanding and theorizing about the big revolution occurred among current scientific disciplines. This is of major importance because this scientific development's produces are new and it is always the time when there is no interest in seeking the new in the trace of the old.

The new scientific spirit will get conscious about a new discourse formulated on the base of experiment, either material or intellectual (remember Albert Einstein's famous mental experiments); if the experiment's result is new, changes or contradicts what was formerly expected, the derived discourse must change too. Scientific methods' mobility and constant evolution is current thinking's characteristic, without this the spirit can't responsibly appropriate contemporary science's evolution.

In order to reach this level of epistemological enrichment the new scientific spirit has to abandon all experience's analytic habits that has always used, that generally correspond to a pre-scientific spirit. Bachelard identifies these habits as epistemological obstacles opposed to the formation of a scientific spirit. Epistemological obstacles aren't referred to external elements interposed in scientific knowledge, but psychological conditions that inhibit the evolution of a scientific spirit in formation.

It's highly important to understand that when the spirits faces a phenomenon trying to catch its rules, it isn't bare. It carries a set of prejudices that disallow direct and qualitative contact with the new reality, because it's impossible to suddenly erase usual knowledges. In front of reality, what is believed to be known obfuscates what should be known. When the spirits presents to scientific culture, it's never young. It's even very old because it has the age of its prejudices. To access to science means to spiritually rejuvenate, accepting a sudden mutation that will contradict past.

Bachelard identifies ten epistemological obstacles.

- The first obstacle is the overcoming of former experience. This experience is formed by perceived information that dwells in the spirit since early years of intellectual life. Information couldn't submit to any critic, because spirit was unarmed and highly voluble, as it was submerged in the unconsciousness of ignoring. These early unstrained experiences become primary truth, since they don't suffer any critic, and it's impossible to create new knowledge against it. This obstacle is strengthened by the apparent nature's whim of showing us an immediate reality that isn't any like the actual phenomenon. This is why scientific spirit must be formed against nature, reforming itself.
- The second epistemological obstacle is realism. It means considering substance's notion as an indisputable reality from which a whole set of knowledge is derived in direct and unquestionable relation with the substance's nature. Since it can't be explained, it's accepted as a fundamental cause or a general synthesis for the natural phenomenon to which it's assigned.

- The third obstacle is verbal. It's located in everyday used verbal habits, that become more effective obstacles as bigger is its explanatory capability. So, a term that appears clear and diaphanous to intellect turns into axiom, no explanation needed. It stops being a word to be an empirical category for the user.
- The fourth obstacle is unitary and pragmatic knowledge, and it's present in all pre-scientific community because "unity" concept allows simplifying any reality. As it explains the whole, it can mechanically explain its parts. "Unity" turns more dangerous if is linked to "utility" concept, since it immediately gives more explanatory value to what is somehow considered useful. This way a useless note is irrational to pragmatic rationalism.
- The fifth epistemological obstacle is named substancialist. It consists in the unit made with the substance and its qualities. Bachelard distinguishes a hidden, an intimate and evident quality's substancialism. Hidden substancialism supposes a closed reality covered by a substance that becomes a problem since it has to be opened to expose its content. In intimate substancialism, the deep quality is profoundly locked, so opening it is a more consuming task, similar to the alchemist's work where the difficulties to make react some metals were related with the level of closeness of its envelope. According to Bachelard, in evident quality's substancialism reality is perceived by direct intuition allowing a simple and dangerously easy explanation.
- The sixth obstacle is realist, where intellect is dazed by reality's presence until it's considered unworthy of study or showing. Reality is ornate with images that carry the signs of the investigating subject's personal impressions, so a realist's argument is more aggressive than the no-realist's, because the former believes in possessing the phenomenon's reality.
- the seventh epistemological obstacle is animism. It means that any concept leading to or carrying life, or principles related, gets more attention and, thus, an overvaluation. In the investigating spirit, life will always prevail because it provides a great value to the element or elements that can hold it. This valuation has always accompanied men in any stage of intellectual development. The great value that is given to blood in all cultures and most civilizations isn't casual since it's identified as a life giving liquid. The word life is a magic word, a valorised word. Any other principle is detracted when vital principle can be invoked.
- Digestion's myth is the eighth obstacle in consideration. This is that any phenomenon related to digestion or cooking (stomach is considered as big cauldron) gets more explanatory valuation. This way, as alchemist equated digestion process to a little fire, they gave more importance to processes that required fire to get a product or a reaction. Digestion doesn't only imply the idea of fire, but also of life because life maintains by means of food assimilation through digestion. Being that this obstacle is enforced by the previously mentioned animism.
- Bachelard identifies the ninth epistemological obstacle as libido. It is interpreted from a will of power or others' ambit's point of view present in the investigating individual that can't stop reflecting it in his experiments or coherent explanation trials. An aspect of this is the constant reference to sexual thoughts present in all scientific spirit in formation when it faces a new situation that, according to Bachelard, is completely manifested in chemical reactions. Even though they are present in all knowledge's disciplines, "teaching chemistry, I've been able to observe that, in the reaction of the base and the acid, almost all students assign the active role to the acid and the passive to the base". This way there isn't any doubt of the explanatory primacy in the reaction attributed to acid.

- The last obstacle is identified by Bachelard as quantitative knowledge, which is considered as error free, jumping from quantitative to objective. Anything that can be counted has more validation than those that don't allow this process. What can't be counted or has no influence on final quantification can be diminished permitting the typical mistake occurred when problem's scales are disregarded, transferring the same reasoning and judges from the very big to the very small.

All previous notions constitute elements that hinder the transformation from a pre-scientific spirit to a truly scientific one. These notions don't only belong to contemporary scientific knowledge; as Bachelard shows, they are also present in ancient and medieval times. This evidences that epistemological obstacles aren't exclusive to a special scientific community or a stage of knowledge's history, they are present in the subjects that intended to make science in all times; It's only by epistemological obstacles' systematic overcoming how spirit can evolve from a pre-scientific status, where the surrounding reality is knowledge's raw material, to one where the notion of reality itself is an excuse to make science, where new knowledge emerges from new realities, that sometimes exists only as math symbols (Bachelard 1981 y 1987).

One of the most important and better known exponent of the "science's new philosophy" is undoubtedly Thomas Kuhn. His book *The structure of scientific revolutions*, published in 1962, literally caused a revolution not only in the field of history of science, but also in the philosophy of science and in self-conception of each scientific field.

Kuhn restarted a philosophical debate about scientific knowledge's growth elaborating an approach radically different to those that were supported by logical positivists and falsificationists at that time. Popper's *Logic of scientific discovery* was finding a demarcation rule between science and no science or pseudo-science that would allow him avoiding inductivism and verificationism's problems. He found solution to this problem in his "falsificationism" that essentially consisted in knowledge acquirement through refutation of previously stated conjectures.

Kuhn's analysis of scientific growth rather emphasizes historical description than normative methodology. According with him, the history of science is signed by long periods of stable refinement that he calls "normal science" that are systematically disturbed by a sudden change from a theory to other without any possibility of communication between them. Kuhn named these sudden interruptions as "scientific revolutions".

Normal science always starts with some "achievement", meaning the raising of a theory that explains, for the first time in an area's history, some fact or event. Normal science is a time lapse when scientific activity dedicates to the resolution of concrete and partial riddles and enigmas. At the same time, through these riddles' resolutions scientists try to extend the relevance range of their investigation techniques and to solve some of their field's problems. Times of normal scientific investigation are also characterized by their marked conservative tendencies; researchers aren't as much awarded for their originality as for their loyalty to the work of confirming the prevailing theory or "paradigm". In this sense, scientific tenacity is also one of the defining characteristics of periods of normal science. This tenacity is mainly shown in the resistance to any external manifestation against the prevailing paradigm. It's important to notice that to Kuhn this characteristic emerges with student's scientific preparation for the management and application

of one only scientific paradigm. Kuhn himself used this science's characteristic against Popper's model. Kuhn argues against Popper that the typical scientist's response when facing an experimental refutation isn't the rejection of theory, as he states, but the retention of that theory with the modification of its auxiliary and observational hypothesis.

To Kuhn, the achievements of a theory integrated to the prevailing paradigm in times of normal science are cumulated and included in text books used to train new scientists generations about paradigm's legitimate problems and solutions. The most important characteristic of normal science is the existence of a "paradigm". Its meaning, a little vague, has been criticized by one of the most remarkable Kuhn's model's follower, Margaret Masterman⁽¹⁹⁷⁰⁾, who found more than 20 different, sometimes contradictories, meanings for the word. Due, mainly to this, in his work's correction Kuhn⁽¹⁹⁷⁰⁾ distinguishes two main ways for using the word "paradigm". On the one side, paradigm must be conceived as an achievement, it means as a new and accepted way of solving a problem in science, that later will be used as a model for researching and formulating a theory. On the other side, paradigm must be conceived as a set of shared values, this being an arrangement of methods, rules and generalizations used together by those trained to perform an investigation scientific work, modelled through a paradigm as an achievement. Kuhn also forged "disciplinary matrix" which, besides including the paradigm notion, refers to the group of scientists as a social unit that acknowledges and shares a paradigmatic achievement, writes and selects text books, provides training and academic degrees and leads investigation to solve enigmas and dazles.

Following Kuhn, paradigm's change for other one, through a resolution, doesn't occur because the new paradigm answers questions better than the old one. It rather occurs because the old theory is seen increasingly unable to solve emergent anomalies and the scientist's community abandons it for other one through what Kuhn names gestalt switch. Revolutions occur because a new achievement or paradigm displays new ways to see things, creating new analysis methods and new problems to solve. In most cases, previous theories and problems are forgotten or put away as historical relics, which are called, since then, "Kuhn losses".

However, as different paradigms focuses on and start from different problems and suppositions, there is no common measure of success for evaluating and comparing them. Kuhn named this characteristic as "immeasurability". Paul Feyerabend and Kuhn himself took this notion from geometry where it means "without common measure". The transition from a paradigm to other happens in an irrational sudden and radical way.

After a pretty long set of critics to his model, Kuhn has softened his original basic conceptions, as "paradigm" and "scientific revolution". There have been a lot of arguments against these categories that were initially defined in a strict way finding little confirmations in the history of science. It has also been argued against the required irrationality imposed to scientific change by this model, constricting it almost exclusively to its external history or the sociology of science, and disregarding the possibility of science's progress. Nonetheless, despite model's changes made by Kuhn, its emphasis in the role played, in scientific decisions, by scientific community's shared values, still remains, particularly regarding tenacity and evaluation of competing paradigms; it also conserves a sceptical attitude against the so-called cognitive factors as "epistemological rationality" or "internal history" in the explanation of scientific change, leaning towards sociologic factors as authority, power and reference groups as scientific conduct's determinants. To

finish, Kuhn was one of the first and most important critics of the "progress" notion in science that he relates with cumulativeness or reductionism and clearly opposes, at least referring to paradigms' change. So he prefers using scientific "change" instead of "growth" or "progress".

On other path, Veron, in "Territorios, Disciplinas, Nudos, Redes: Metáforas sobre las fronteras", proposes thinking from transdisciplinarity. Power has a significant place and ideology is suited in a same stage. Ideology and power as sociologic problematic's core.

Industry is one of the destinations for the products named scientific knowledge, and transforms them into technological innovation. But, to scientific institutions, scientists are the first destination. By an endogenous mechanism, institutions feed themselves, and their own media activity of information producing reality over which they work, instead limiting itself to law's discovery. This idea of realism is opposed to the constructivist hypothesis of reality construction by knowledge. Nature known by scientific knowledge wouldn't be but the product from our categories and cognitive mechanisms that allow its construction. Objects studied by science aren't built as trees or rocks, but constructed by complex interlacements of concepts, theories, observational and measurement technical devices, without which there wouldn't be study object.

Tracing a parallelism between scientific institution and industrial enterprise, and between scientific institution and information media, asking whether information is merchandise isn't banal. But if massive merchandise notion is applied, media institution massively makes it circulate as anyother massive product.

On the other hand Ranesi proposes considering the politic from the world of tragedy's thought, which contains a set of keys for the comprehension things that could be helpful for who proposes to think of politic. Tragedy is a way of thinking the conflict, with contradiction and antagonism dimensions always present in the life of men and their interrelations. Conflict is one of the fundamental cores of politic. Max Weber characterises the politics' world as a space for that "war between gods", struggle of confronted values and that Esposito states conflict isn't but reality and its fact of politics. So he suggests the hypothesis of tragedy and tragic thinking's capability to think political phenomena.

b) Concepts of health.

This concept has suffered modifications along its history. It's a living, dynamic and relative term which analysis can help to understand valuation and dynamic around health in each society and epoch because it has get to engage an extraordinarily important place in our personal and social life. The pursuit of healthy lifestyles is getting to be a time and energy consuming target for many people (Sanchez-Gonzalez, 1993). This involves the participation of large amount of social agents in its consecution, sometimes with opposed interests and from very different perspectives. Therefore, a question should be answered: What are we talking about when we refer to *Health*?

- Medical-assistance context: This context is configured by sanitarian professional's activities and needs. Here, healing and pragmatic aims prevail. Its action paradigm is individualized medical assistance to sick people with recognisable diseases, with evident corporal alterations. In this context the primary concept is objective disease diagnosable by its anatomical, physical or chemical signs. These diseases are the medical science defined set of morbid species. And health tends to be considered as the mere absence of disease.
- Patients' cultural context: This context is contributed by people feeling or believing themselves sick inside a determined culture. In this context the primary concept is *ache*, conceived according cultural stereotypes. Sanitarian aims are the recovery of normalcy and the adaptation that allows community life.
- Sociological context: it's configured by the study of society as an integrated whole. Its aims are comprehension and performance over society in conjunction. In this context individual's health is understood as a status of possibility to effectively function developing a social role. Health will be a necessary condition for the fulfilment of social expectations.
- Economic and politic context: economic needs and politic points of view configure another context for the use of the term "health". Economic perspective will see health as an economic good and will try to relate it with other economic factors. Thus, for example, individual health perception can be in relation with the salary level; and assistance's demand with prices or medics' retribution system. And, on the politic stage, health will be conceived as fundament for liberty, security, international relationships and politic stability.
- Philosophical and anthropological context: This context is configured by some global conception of human being. In it health tends to be defined as the most proper and specifically human status according with the sustained anthropological idea. So, for example, health can be understood as an autonomic and responsible lifestyle; or as the capability for accomplishing the most specifically human values(Sánchez-González,1993).
- Ideal and utopic context: this context is influenced by ideas about complete happiness and integral quality life. It can include all kind of human desires and aspirations, even superior potentialities and the so-called spiritual realizations.

Different basic presuppositions

These presuppositions allow acknowledging different kind of Health's definitions according its consideration. Health is an objective status that can be universally discovered and defined independently value judgements; or it is a historic-cultural construction elaborated and qualified according cultural values and social regulations. There are two kinds of definitions:

- Neutralist definitions: they state there is no need to appeal to value judgements because health and disease's definition is an empiric scientific matter. Biomedical point of view appears according which some anatomic, physiologic or biochemical data are identifiable as pathologic independently its socio-cultural context.
- Normative definitions: health and disease are concepts inevitably loaded with values about what is desirable, useful or good. Therefore it's impossible to decide whether a particular status corresponds to health or disease. Both could only be defined in a particular culture's background and some conditions would be qualified as diseases because in the corresponding culture they are bad or undesired.
- Definitions including social aspects: they also include the aptitude to achieve a socially productive life or, at least, perform a social role.
- Ideal and utopic definitions: they are influenced by ideas of complete happiness and integral quality life. They can recognise all kind of human desires and aspirations, including the so-called spiritual realizations. In this context health acquires a maximum wideness.

Health concept's evolution

Health, as any other portion of reality, transcends and is also subject to the conceptualization that can be formulated in a concrete sociocultural moment. The word "health" evocates different realities depending on the historic epoch, the culture or civilization we are located and the actors and social segments that use it. First, it could be said that the most intuitive and accepted definition is disease's absence. During the first part of the 20th century, public health's status is generally described in term of diseases' presence or absence. Diseases' control constitutes the main target of all health related institutions. However, before middle 20th century and coinciding with the Second World War, a modern comprehension of health as it's consecrated in the World Health Organization's Constitution Letter ⁽¹⁹⁴⁶⁾: *"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"*. But this definition was also rejected by many authors as they considered it utopic, static and subjective (Salleras, 1985). Utopic because a status of complete health doesn't exist; static since it doesn't consider health changing and dynamic; and subjective as the idea of well or bad – being depends on the individual and its perception. Therefore diverse definitions of the term have been being done, trying to involve different aspects of the term and tending to modify criticised WHO definition's mistakes.

René Dubos, in 1957, expressed what health meant to him: *"Health is a physical and mental status reasonably free from discomfort and pain that allows the person in question effectively functioning for the longest time possible in the environment where he's located by choice"*. The essential element of disease wouldn't be inherent in the infection itself, but in the set of internal or external boosts that alters organism's resistance and brakes the individual-environment balance represented by health.

Diverse ideals of Health

There are definitions that try to clear what should be understood by science from the point of view of potential ideals generated by health idea. They try to specify the amount of desirable aspects to be included in the concept, giving rise to more inclusive or more restrictive definitions as the indispensable components to be included in health were more or lesser. Consequently increasingly inclusive definitions of health appear. Therefore four kinds of definitions are generated, they are:

- Definitions restricted to the strictly corporal: they have the longest historic tradition. Remember that medicine has been centred in the physical body since Ancient times. Following these definitions health is a status of physical well-being and silence from the organs.
- Definitions that include psychic factors: considering an adequate behaviour and well-being enjoyment. *"Health is to be achieved for people to be able to work productively and actively participate in the social life of the community where they live."* (WHO, 1997)

c) Concepts of Buccal Health

Due to discrimination suffered by Odontology along past and part of the present century, this practice developed its knowledges in a sort of "black box" which fundament, basely technological, made them inscrutable for laymen and other health practices. Hence, discrimination derived in monopoly and, later, monopoly led to operative autonomy rendering possible an authentically professional behaviour. However this circumstance, historically positive for the process of professionalization, was negative for the scientific and academic foundation of odontology. The historic remoteness from biomedical sciences and from behavioural and social sciences reverberated as an inaccurate correspondence between dental practice and its object of work. What can be expected from a professional practice that, as seen, has developed a disturbed scientific-technical reference on its object of work and itself? Despite the scientific-technological development, a significant social and epidemiological impact on the human disease-health's buccal component hasn't been possible. It can be stated that the theoretical-practical basement of odontology isn't the most adequate for the context where it works. Therefore it's a decontextualized professional practice. According Dávila, odontology crosses over a profound crisis imperceptible to people and to odontological hegemony's eyes.

This crisis can be comprehended in many variables. On the one side, odontologist's pauperization: this socio-economical aspect is consequent with health enterprises' concentration and is expressed in contradictions between many professionals' ideas and practices that remain unseen by most of the medical-odontological community. Population daily grieves this crisis' effects and the link among Odontology and Health appears to be inexistent.

In previous works (Siragusa et al) it was demonstrated that population doesn't recognize odontology as a health problem.

The term invisible crisis is used because visualized indices refers to disease's quantification and 80 % of population suffer buccal injuries (OMS-World Health Report 2003). Billions of people grieve the effects of dental caries.

It has been epidemiologically demonstrated that the prevailing age group in the studied population corresponded to people among 18 and 35 years old, in which the presented proportion pathologies corresponded to caries disease' irreversible complications, being front superior area's dental pieces the most affected (Siragusa et al).

These data are concurrent with studies done by the Community Health Centre FOUBA between 1999 and 2000, where 95% of patients among 15 and 55 years old presented caries' damages.

The simplification of the topic is probably responsible for the lack of strategies to give response to this problem which social-historic- philosophical origin transcends teeth.

Neoliberalism's boom in the 80's and its politic for Latin-America created the concentration of disease's business as a way for centralising capitals. This provoked, due to professionals' impoverishment, the pursuit for major gain instead of better health.

Politics were developed in a planned way over solidary organizations facilitating inner corruption. Buccal disease's indicators increased and instead of solving them, new problems were added to the existent ones, profession's mercantilization and social vulnerability with a decrease of practices' quality.

In order to strengthen this philosophy, human resources' formation responds to an ancient schema that recycles and generates more diseased, with the illusion of successful odontologists that get disappointed when face their patients' quotidian actuality.

It seems to be that areframing of the theoretical framework and the clinical odontology practices is slowly installing. It's about generating the inclusion of an approach more integrated to patient's vision, and convincing that preventive practices are more accurate than healing and restoring ones. But it's evident that something is still been done wrong. It seems to be that social practice doesn't find its path through health. But if the concept of buccal health is confused with disease's absence the problem seems to lie on not knowing whether the work is for teeth or human happiness.

There is no doubt that this decontextualized, positivist and scientific theoretical framework's model does nothing but recycling diseased and sharpening day-to-day therapeutic complexity. This complex contradiction, denied by odontology, is daily confirmed by justifying practices known as ineffective. Synthesising, a decontextualized practice is confirmed without the dare to generate a new theoretical frame conducting to comfort for patients as well as for professionals.

In Argentina, the development of an odontology for health allowing more extended practices has been intended since the 40's.

In reference to FOR-UNR's experiences, progressist modifications applied on the plan of study's curricular reforms in 1986 tried to change the scientific-positivist paradigm. In my opinion, after almost 30 years, the results weren't the desired ones. Many factors interacted negatively influencing the final results in the human resources formation as well as in the quality of the offered practices.

Defeating the collective imaginary that measures professional quality by the use and abuse of increasingly complex and expensive technologies wasn't easy. On the other side, through a critical analysis of professional's fee, restoring practices are still better paid than preventive ones. There is a big devaluation of odontologic consult and its importance for stablishing an accurate patient-professional relationship, for performing a diagnose and proposing therapeutic etiologic protocols that neutralize the causing factor instead of healing its consequences.

This results from the outdated theoretical frame supported by molecular biology, by its signing process for external stimulation and the patient's immunological response.

Gremial or odontology traditional scientific organizations probably don't get to realise the severe problem that the profession, and it in the conceptual frame of health and society's field, is crossing over and how can they provide a significant change to this matter.

As Rossetti says: "health can't be achieved through the path of disease", and I would add: "Health neither can be achieved without people's active participation".

d) Quality of life.

Along history diverse groups of thinkers have had the concern about knowing and explaining the happiness status in their discourses and studies. By the end of last century and the beginning of the present one, studies concerning quality of life, well defined as "subjective well-being", arose.

Quality of life's subjective character is important to approach the topic. Subjective is understood as: "belonging or relating to subject, considered in opposition to the external world". People's way of feeling or thinking is directly influenced by environmental factors, especially culture. Quality of life could be thought as equally given to different cultures so the concept could be defined considering each culture's diverse factors, but this isn't enough. There is a gap in between the interlacement of culture's diverse factors that influences each person's way of feeling life, expectative, goals, desires, sense of life. It's directly related to freedom (always understood as constricted by environmental factors). Freedom, correctly conceived, is the personal accomplishment of the life' ordered sequence. A free person voluntary, free and responsibly moves to perform its important role in a world where determined events relies on its choices and spontaneous will. This freedom differences each person's being, the aspect that remains in the heart and is intercepted by many factors constituting self-subjectivity.

Along time quality of life's concept has been defined as the quality of a person's life conditions, as the satisfaction experimented by the person from those life conditions, as the combination of objective and subjective compounds. Quality of life is defined as quality of a person's life conditions and experienced satisfaction weighed by a personal scale of values, desires and expectations. Nonetheless some factors are being disregarded, those that directly intervene in the interpretation of situations as positive or negative, it means influencing peoples' scale of values and expectations: the culture.

Human being is conceived as immersed in a society framed in a physically and historically determined place and in the culture acquired by socialization. Both element regulate, even constrict, subject's conceptions of world. Subject evaluates, more or less consciously, what happens and undoubtedly it isn't easy since the process is mediated by many factors linked to the global ones previously mentioned. All of this conjuncts and allow the subject to conceive and to live each life moment in certain way according to that evaluation. Finally, although quality of life has been stated from an evaluation mediated by multiple factors, personal characteristics can't be avoided, this status is added to all previously mention factors complexing this process even more. So we redeem subjectivity, a way of conceiving world as particular as many humans exist on earth, at the same time mediated by the socialization process and culture where it develops and regulates.

Quality of life is a multidimensional category. It supposes the acknowledgement of men's material, cultural, psychologic and spiritual dimensions. It struggles against the unidimensional and uniform concept of men. Most current tendencies reject conceiving human as linear being, it's considered obsolete since from its own corporality human being's complexity is indescribable. Then approaching process from a holistic way allowing a better comprehension of this mutually influencedskain of factors; thus quality of life's concept depends largely on subject's own particular conception of world. In other words, as a synthesis the value of the interpretation of life' facts and objectives, the immeasurable bulwark of subjectivity, is highlighted.

e) Relationship between buccal health and Quality of life.

Dental caries isn't considered as a severe disease but it can affect quality of life thus it produces functional and psychologic damage.

In the first case, masticatory functions decrease to the point of removing hard food from diet. In a psychologic level, the lack of pieces and the dental appearance affects self-esteem, leading to the need of isolation or changes in the interaction with others.

In general terms, quality of life is a concept that can influence the level we consider ourselves able to participate in activities attending our needs and expectations; then "if I don't feel right about my mouth due to caries, this stability will be affected".

This multifactorial disease, provoked mainly by buccal hygiene's bad habits, microorganisms and environmental substrate or elements that facilitate bacterial proliferation, affects mostly children. Therefore public politics focuses this segment, although pregnant women and elder adults are the most vulnerable groups. This chronic illness is also related with cultural core, the access to healthcare, individual's diet and the fluoride amount in water.

In the world, caries represent the main buccal health problem; in fact, in developing nations it reaches 90% population, in elder adults this condition diminishes but this is because many dental pieces has already been lost at that age. As it is a chronic ailment, its symptomatology requires time to appear; then, if the person perceives the problem, this is already acute: there are pain, difficult to masticate, local infection with abscess and even impediment to perform daily activities. If it isn't attended, the discomfort disappears, but only because dental structure is lost.

Bacteria causing this illness can be related with periodontal diseases that, at the same time, are related with other ailments as diabetes or hypertension.

Moreover there are studies that point out that if an individual lacks a good masticatory function, doesn't generate good nervous impulses deteriorating his cognitive capability. An accurate mastication demands 80% or more dental pieces, then functional denture requires at least 20 teeth.

Caries prevention is easy with an correct buccal hygiene; so health education actions has to be implemented among subjects, like teeth brushing after meals, dental floss use and dentist's visiting.

f) Approaches to the problematic of Buccal Health.

Regarding developed reflections on buccal health's importance, its approach should be transdisciplinary. The increase of population's age average lead to suppose that, in close future, the group of elder adults will considerably grow. This will demand new strategies in order to achieve that patients get to advanced ages with an important percentage of their natural dental pieces.

Transdisciplinary health team is understood as a transdisciplinary team compounded by actors articulated by a same paradigm forming a theoretical/practical alliance for the problem's comprehension and consequent action. It demands "different theoretical reference points harmonize around certain methodological premises by which procedures and techniques are established for intervention. The latter may be developed by each profession (in this case, neurology, kinesiology, occupational therapy, speech pathology, and psychology), which takes part in the process without entering into conflict with its own postulates" (Inglott 1999). Situational approach to health is an example of transdisciplinary team's work.

g) Quality of work life.

The concern about Quality of work life (QWL) gets special interest in the 70's decade in U.S.A. where it gets social and institutional acknowledgment thanks to the actions of the "QWL movement". This movement's vindications derive from the need to humanise work environment specially attending to human factor's development and quality of life's improvement.

The study of quality of work life has been approached mainly from two major theoretical-methodological perspectives:

- Quality of work environment
- Psychological QWL (Davis y Cherns, 1975; Taylor, 1978)

Both differs on the objectives they aimed through quality of life's improvement, on the work environment's aspects they study, on the analysis focus they are interested and on their work life analysis' generality level.

"Quality of work environment" perspective aims to get quality of life's improvement by achieving organizational interests. It centres the analysis on the whole organization conceived as a system, on the diverse subsystems that integrate it, by a macro level of analysis. Instead, Psychological quality of work life perspective is rather interested on the worker. It develops a microanalysis of those punctual elements that constitutes diverse work situations in which the individual directly participates. While the second theoretical approach points to the importance of subjective aspects of work life, giving the worker an important role, the first one subordinates those aspects to work conditions and structural elements of the organization.

Objectivity and subjectivity of the work environment: the quality of work life depends of all the elements constituting work's environment: environmental conditions, work organization, job's contents, schedules, salary, health and work insurance, work's rhythm, and etc. Quality of work life then depends on working conditions' nature and characteristics.

The subjective dimension refers to the array of work perceptions and experiences that, individually or collectively, origins characterized work realities within a same organizational context. This process of socio-cognitive construction of the work ambit emerges from a complex system of relationships and interactional ways established by individuals among them, allowing them to define and operate, to transmit values and beliefs, to share attitudes and behavioural patterns, to construct symbols and significies.

Worker/organization: the study of an organization's work life from the worker's point of view supposes the realization of a micro analysis centred on the individual, on the way he experiences and perceives his work ambit. A more global analysis of work quality of liferequires focusing on all of the organization's levels, as an open and dynamic systemand the array of subsystems that constitute it. The point of analysis will condition the extent of the QWL study and the indicators needed for its evaluation.

Psychologic QWL/ Work environment QL: each individual's personal characteristics and cognitive resources condition attitudes, behaviours and ways to perceive, value and interpret the diverse faces of the own work environment. The way each worker experiences the own work ambit determines the QWL, and this individual or subjective value is what we call psychologic QWL. The objective dimension of work life corresponds to physical, objective conditions inherent to the work position or environment, determining more or lesser quality of work life.

III - Conclusions.

In this part final reflections are presented, they are based on the experience of over 40 years of teaching in the same academic place. From a retrospective critical analysis we deduce that plenty of work has been done in the University domain since the initial impulse of the university autonomy's recovery in the 80's decade. University politics were defined when massive student entrance to university classes had to be responded. To balance the docent-student-building infrastructure demanded time, effort and creativity. Due to Argentinian political history, the problem of student comfort was priority to university community. In that context, the need for docent's pedagogic formation was estimated imperious. Docent concourses were recovered as a healthy methodology for getting into docent career and the pedagogic propose was its main evaluative element. Consequently docent stability was guaranteed by recurrent evaluations. But it was probably worked from a partial scope. When later, grade careers faced accreditations process (CONEAU) quality standards to achieve aims were established. Same criteria were applied in the evaluation of other academic units, located in national ambit as in MERCOSUR integration. Odontology was one of the academic units participating in that process as it was decreed of national interest.

However, in practice little is said about docent figure's care. A hard to solve problem appears in stage because docents acting on clinical practices on patients are responsible, with their personal patrimony, for the problems generated by possible errors derived from the teaching-learning process. Wrong practice trials' culture has subtly converted in the direst factor for clinical practices' development. In this conflictive field, equally involving all actors, it attempts against the challenges of decision making to solve patients' complex problems. Teaching quality and clinical experiences' enrichment slowly decays. Therefore much responsibility moves to post-grade with the formalization of specialities.

As future strategies what was acted until present should be reviewed, strengthening achievements and solving weaknesses. We have probably matured enough to think broader approaches tending to balance the components of the university activity.

If we consider that health, in general, and odontology, in particular, are important indicators of the concept quality of life agreeing with Gagliardi, who states that many traditional communities are experiencing a fast transformation process. They are changing their lifestyle, migrating to urban areas, starting new activities. When traditional communities' members leave behind their traditions and adopt a modern lifestyle, their worthy knowledge gets lost and they often don't get to adapt to the new life conditions. Alcohol and drugs are the most common answers to discrimination and to the low self-esteem they experience. The most common consequence is that students from traditional communities have an inferior average of success than those from other communities.

Numerous traditional communities wish to maintain their traditional lifestyle, but as the contact with occidental civilization increases, the hassle to change grows. Science and technology teaching can improve the situation of traditional communities' members allowing them to use their own resources, enforcing their self-esteem and improving their school results. Science and technology teaching can also contribute to traditional wisdom's maintenance, integrating it in modern knowledge.

The gap between traditional beliefs and scientific knowledge isn't easy to fill up. It isn't a philosophical but practical problem; to learn basic scientific knowledge is very difficult if learning obstacles, like language and culture, aren't overcome.

It seems an impossible to solve challenge, but if we recover compromise, contention, boundaries and people's valuation, we could all walk toward a 21st century's health, this conceived as an universal right and not like a commodities. To achieve this all actors involves in odontology formation need quality of life and working in respect and mutual confidence based context.

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