



The Sixteenth International Congress on Sound and Vibration

Kraków, 5-9 July 2009

Diagnosis of Human Emotional and Functional Stress Reactions to Acoustic/vibration stressors of defined Frequencies via Voice Frequency Analysis VFA - Exemplified by the Demonstration of an Individual Case Study

by

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Background: Unfortunately, in our day and age conventional medical diagnostic seems to be in quite a quandary in order to give a correct answer how chronic disease is installed by the daily stress. One of the main reasons for this is that the model that conventional medicine uses for the organism and its pathology is lacking in biophysics knowledge and lacks in explaining the biofeedback interactions, the synergy between major systems, and the increasing complexity of introducing medicines that are not in tune with the previous processes mentioned.

Organisms are open systems; they react with and to their environment in certain ways depending to its individual constitution (gene makeup, inherited genes), condition (information gathered from the way human live their everyday life, their habits, psychological frame of mind, consciousness at a specific time, age factors, etc.), and conditioning (learned precepts (memory)), see figure 1.

Therefore, the presented diagnostic concept uses the ideas of Prigogine and Nicholis of self-organization phenomena, chaos theory, the concept of bifurcation, fractals, the concept of entropy, and free energy. By this organism can be considered as an open system obeying non-linear behaviours.

The knowledge of the individual comprises the following:

- the own constitution, condition, and conditioning

- the influence of the autonomous nervous system on the organs, the extra cellular milieu (redox system, acid-base equilibrium, and hormone system), the personality profile (nutritional type, activity, features, social relations, work, and time management)
- the biological rhythm, which are specific for each system of organism

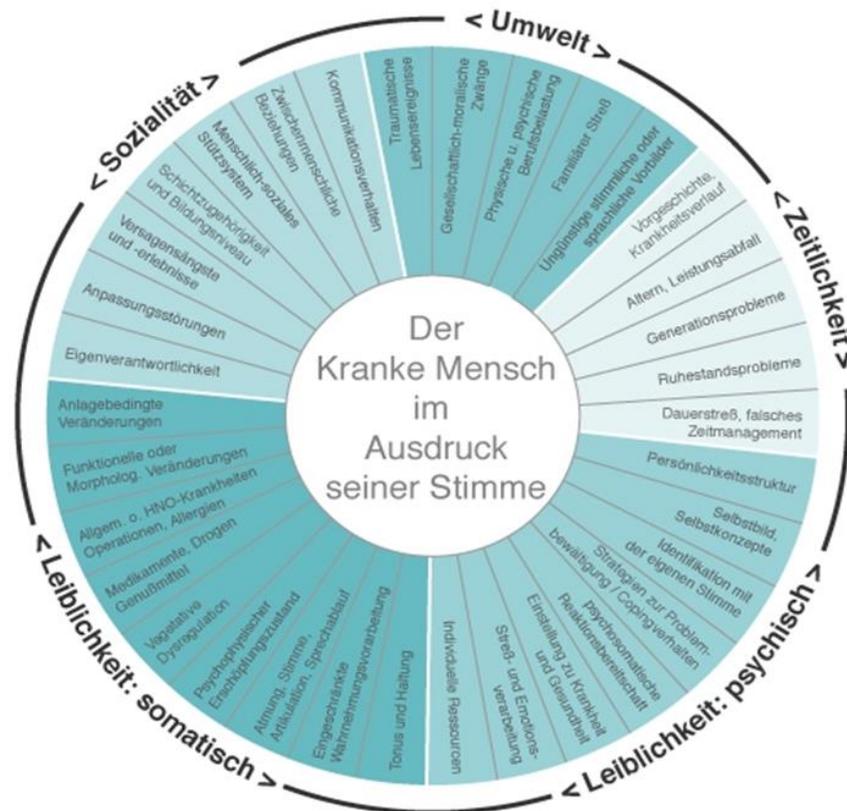


Figure 1: It shows the emotion, the symptoms, the psycho-social behavior and illness of a person in the expression of his voice

Aim: The aim was, to offer a reproducible and valid diagnostic system, which can:

1. observe the behaviour of human organism in total during the daily communication processes between human and machines (environment at all)
2. observe stress in organism as the factor No. 1 for illness/health, activated by a stressor, for example an acoustical vibration of a machine/car/train, etc. Doing so, stress becomes an interaction process of the specific rhythms of the machine and the biological rhythm system (BRS) of organism. Physics would speak of an interference process.
3. offer a better chance to engine-/house-/etc. builders to cope the problems of these communications processes as an interference problem

Methods: When applying special time series analysis on the acoustic bio-signal "voice", you can demonstrate that the VFA determines an interference picture of the BRS of organism involved with environmental rhythms, for example acoustical vibration with the BRS, and by this changing the following emotional and functional stress parameters (ESP):

- redox system, acid-base equilibrium, and anabolic-katabolic hormone system
- personality profile
- conditioning

Results: Shown by a study of 30 Persons you can say:

1. VFA is a reproducible emotion-functional diagnostic method for human organism
2. VFA enhances for engine builders the chance to find better preventions for organisms
3. VFA gives a chance to look for all individual emotional and functional reactions of human organism during for example specific interacting vibrations.

Conclusion: The study shows that VFA achieves the expectations in its possibilities to measure the emotional and functional behaviour of an open biological system such as improving the engine builder's competence of coping with health or illness; individualized diagnosis during acoustical communication between human and machine/car/house; enhancement of effectiveness, efficiency, and safety with respect to prevention; enlargement of the present diagnostic based on morphological, pathological, and chemical by an objective presentation of the physiological, and morphological stress factors of the individual.