

Pesquisa básica e homeopatia – part 3

Basic research and homeopathy

Pesquisa básica e homeopatia- basic research and homeopathy

Part 3: Working hypothesis on the action mechanism of homeopathy

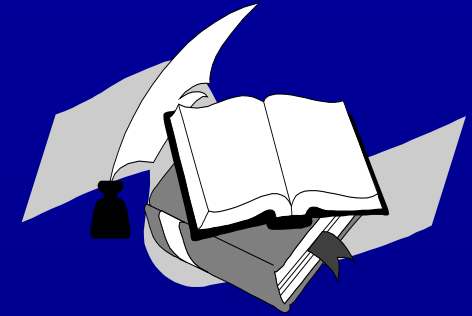
Regulation of stressed homeostatic networks



A general model
of the Similia principle

C.F.S. Hahnemann

Ueber die Werth der Spekulativen
Arzneisysteme. Allg. Azn. D. Deut.,
263, 1808.



“This peculiar (vital) reaction of the parts to one another and to the external world cannot be judged of, or explained by none of the known laws of mechanics, statics, chemistry or physics.

All those theories to which age after age has given birth, when brought in contact with simple experience, have been found to be far-fetched and unfounded...”

A HOMEOSTATIC SYSTEM

consists in a set of anatomical, biochemical, and functional elements designed to maintain a physiological variable within minimum and maximum oscillation limits

➤ *at cell level*, (e.g. membrane transport systems, enzyme induction, heat-shock proteins, cyclic nucleotides)

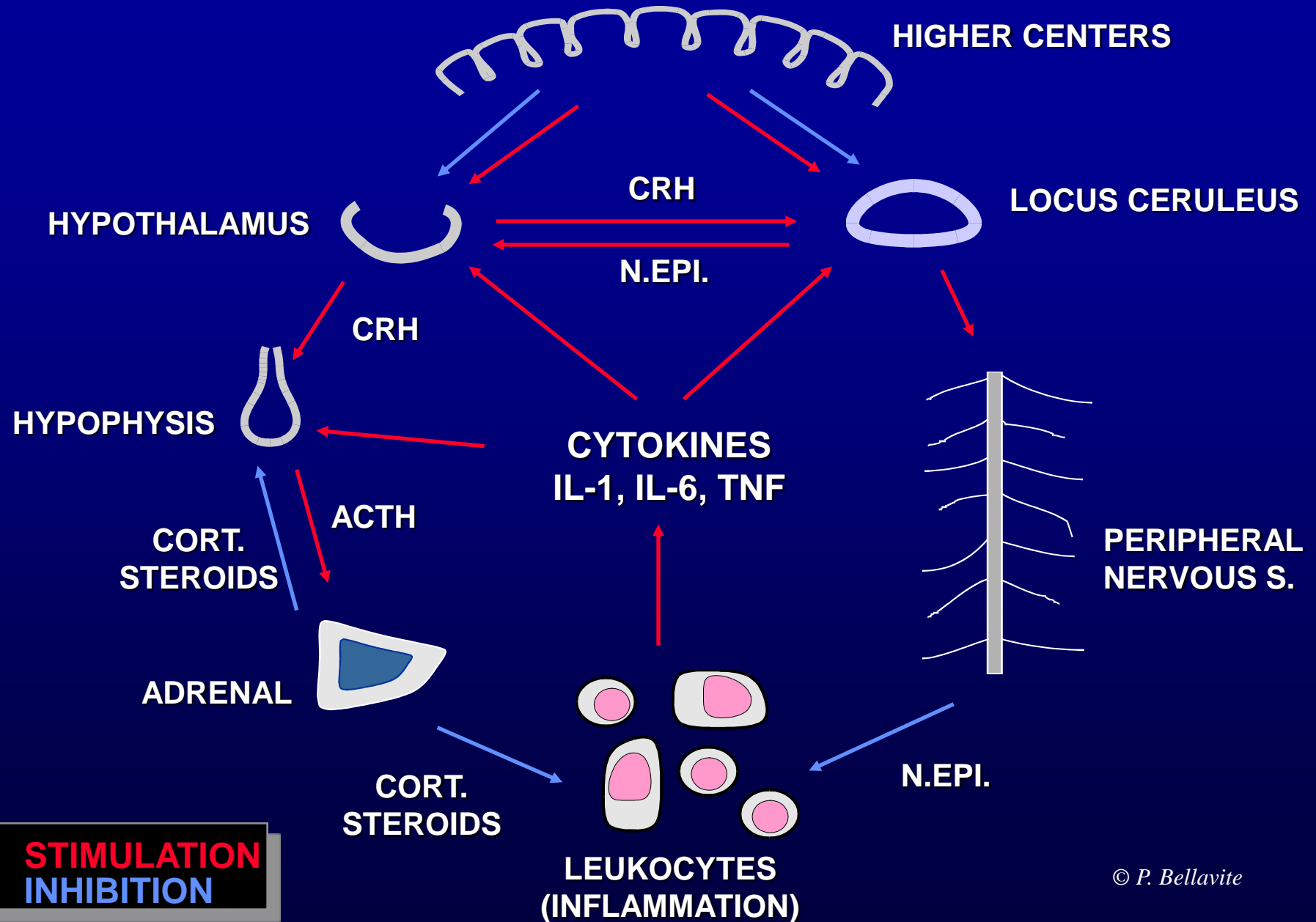
➤ *at organ level* (e.g. regulation of blood flow, of numbers in cell populations, of structure and morphology)

➤ *at apparatus level* (e.g. regulation of blood pressure, thermoregulation, bowel function, sexual cycle, etc.)

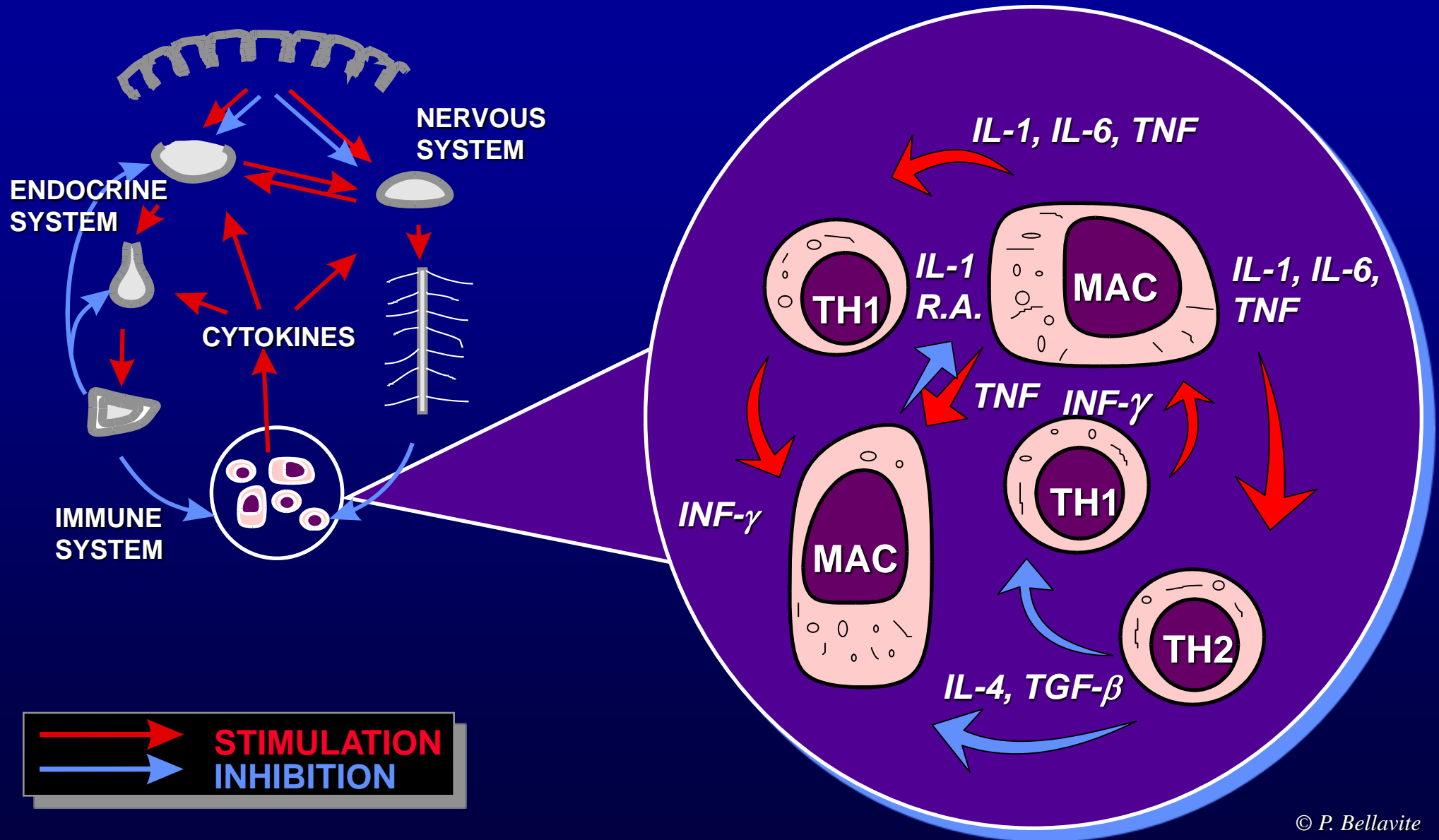
HEALING MECHANISMS

MOLECULAR	CELLULAR	SYSTEMIC	PSYCHO-SOCIAL
DNA repair after mutation	Cell adhesion and movement	Inflammation and immune response	Changes in lifestyle, diet, exercise, hygiene meditation, prayer
Inactivation of toxins by antibodies	Free calcium homeostasis	Neuroendocrine response to stress	Patient-doctor relationship
Free radicals scavenging	Nerve fiber regeneration	Sympathic-parasympathic balance	Family help and social solidarity
Self-assembly of collagen and fibrin	Bacterial killing	Rest and relaxation	Economic factors
Detoxication by cytochrome-P450	Tumor cell recognition and destruction	Maintainment of blood fluidity/coagulation	Sexual relationships
Heat-shock proteins (chaperonins)	Bone resorption and deposition	Organ regeneration and remodeling	Cultural factors
Buffering capacity of fluids	Membrane exportation of toxins	Arterial pressure and blood circulation	Efficiency of healthcare systems

TYPICAL SYSTEMIC HOMEOSTATIC NETWORKS

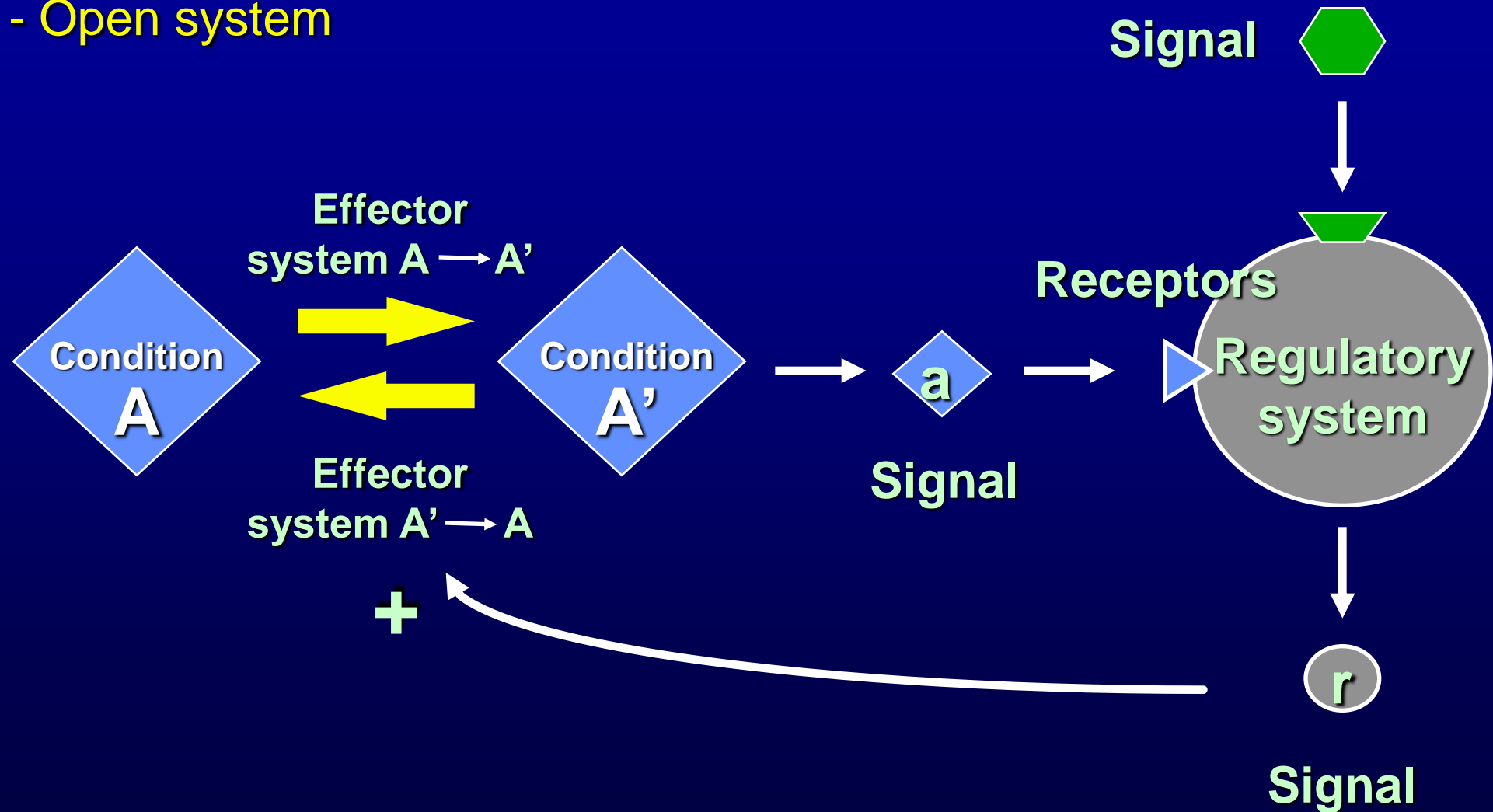


SYSTEMIC AND CELLULAR HOMEOSTATIC NETWORKS

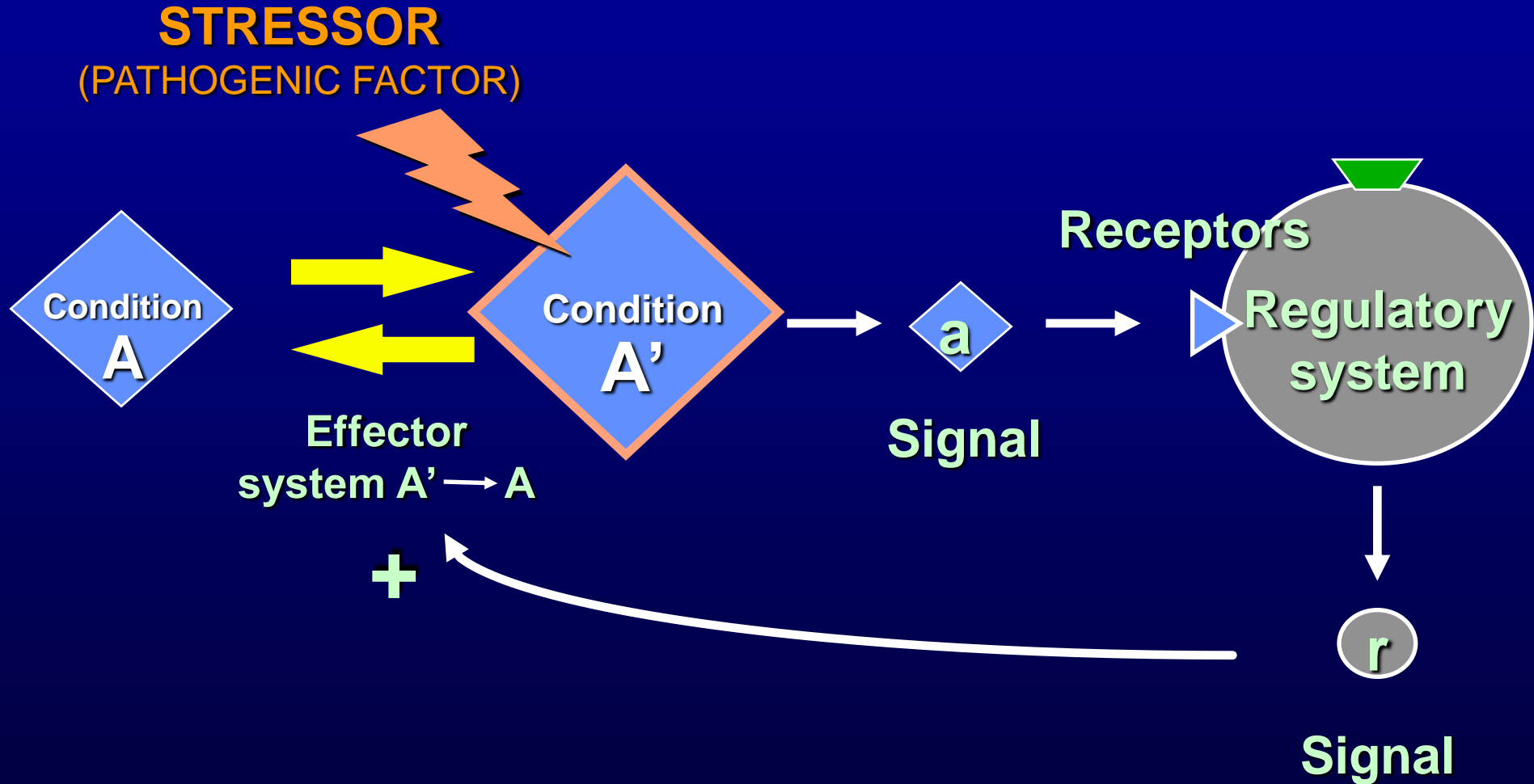


MODEL OF A HOMEOSTATIC SYSTEM

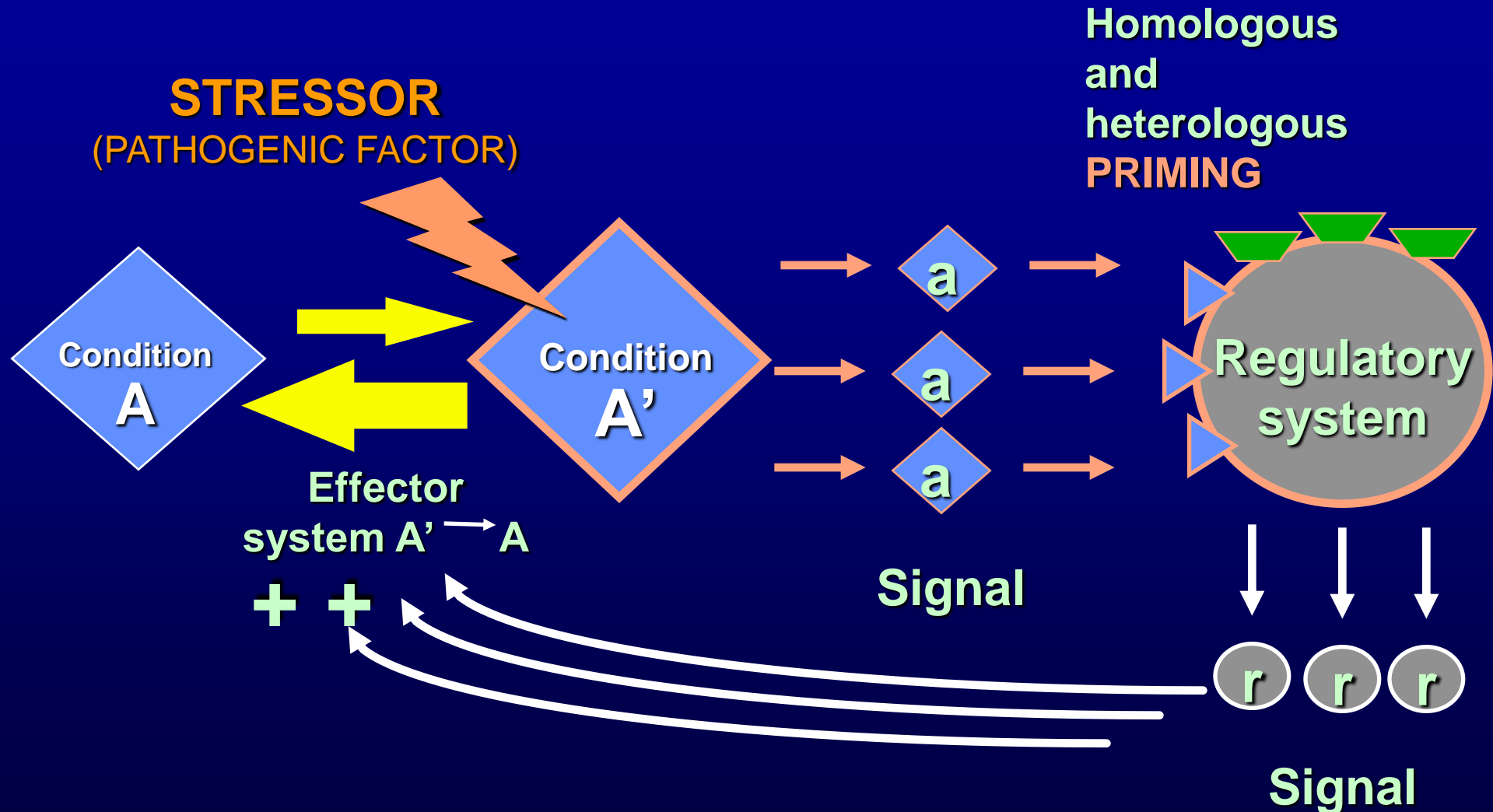
- Controlled dysequilibrium
- Open system



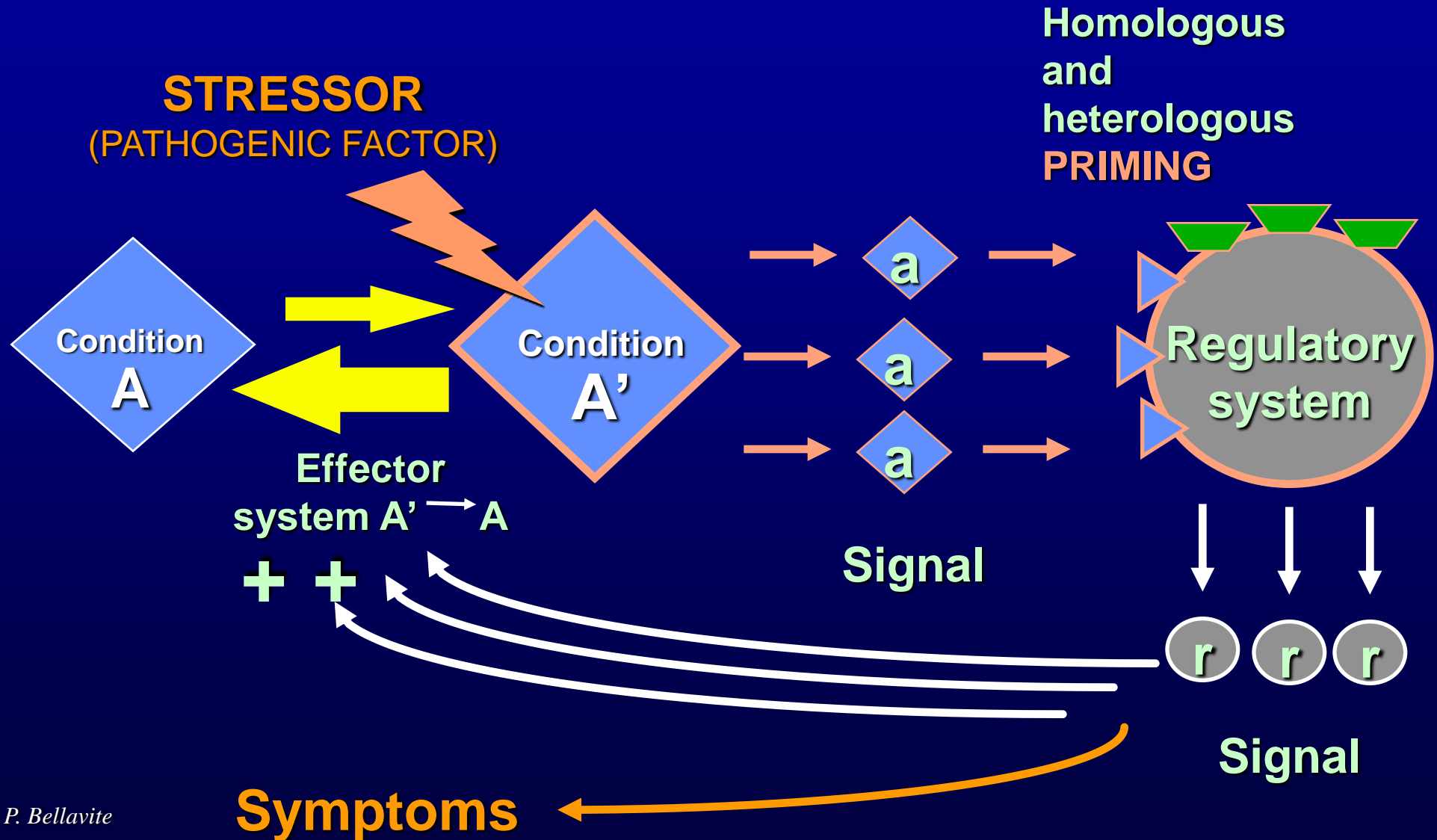
EXOGENOUS OR ENDOGENOUS STRESSORS MAY MODIFY THE DYSEQUILIBRIUM



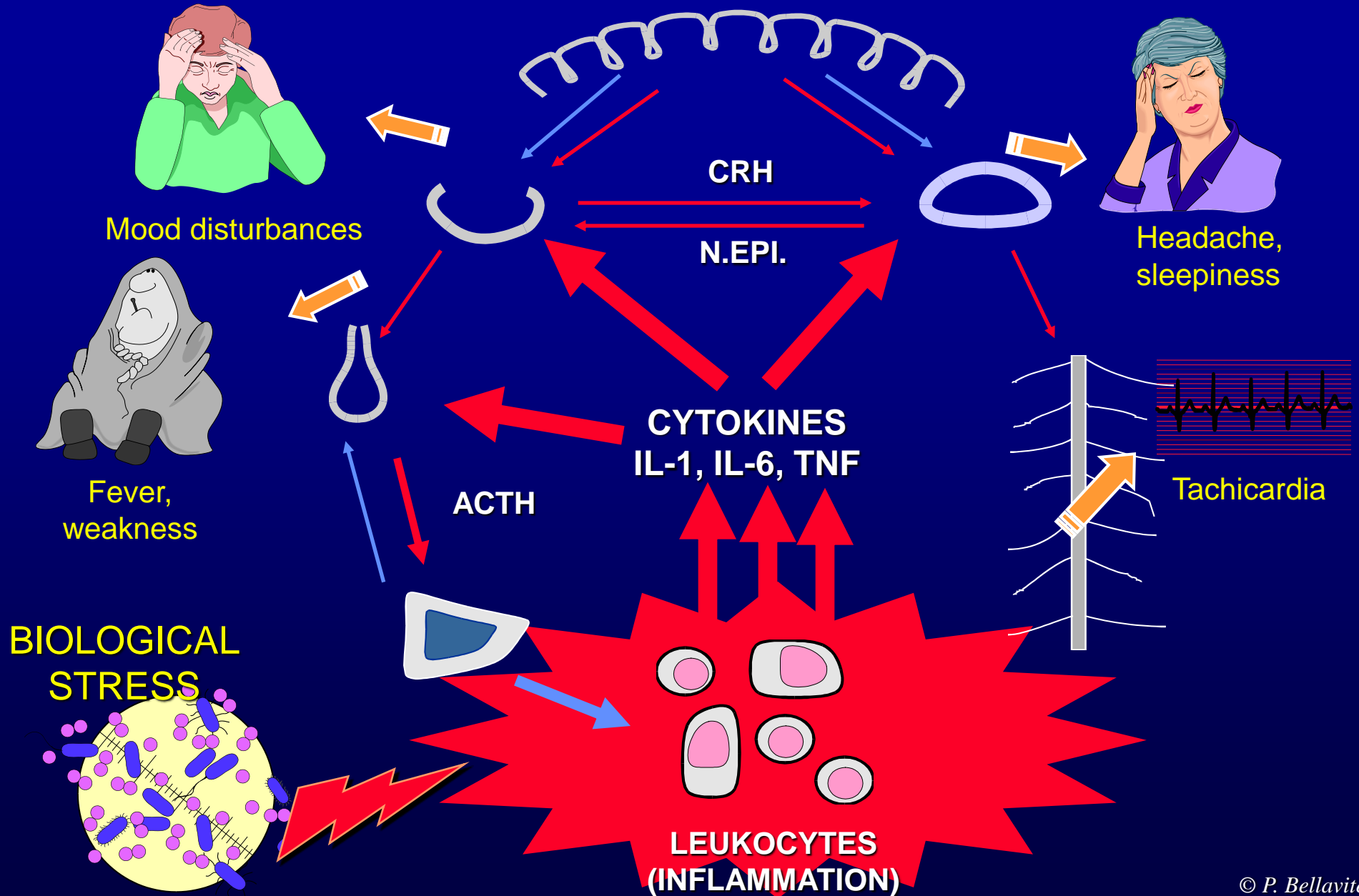
CONDITION A' PRODUCES MORE SIGNALS (a), WHICH ACTIVATE THE REGULATORY SYSTEM



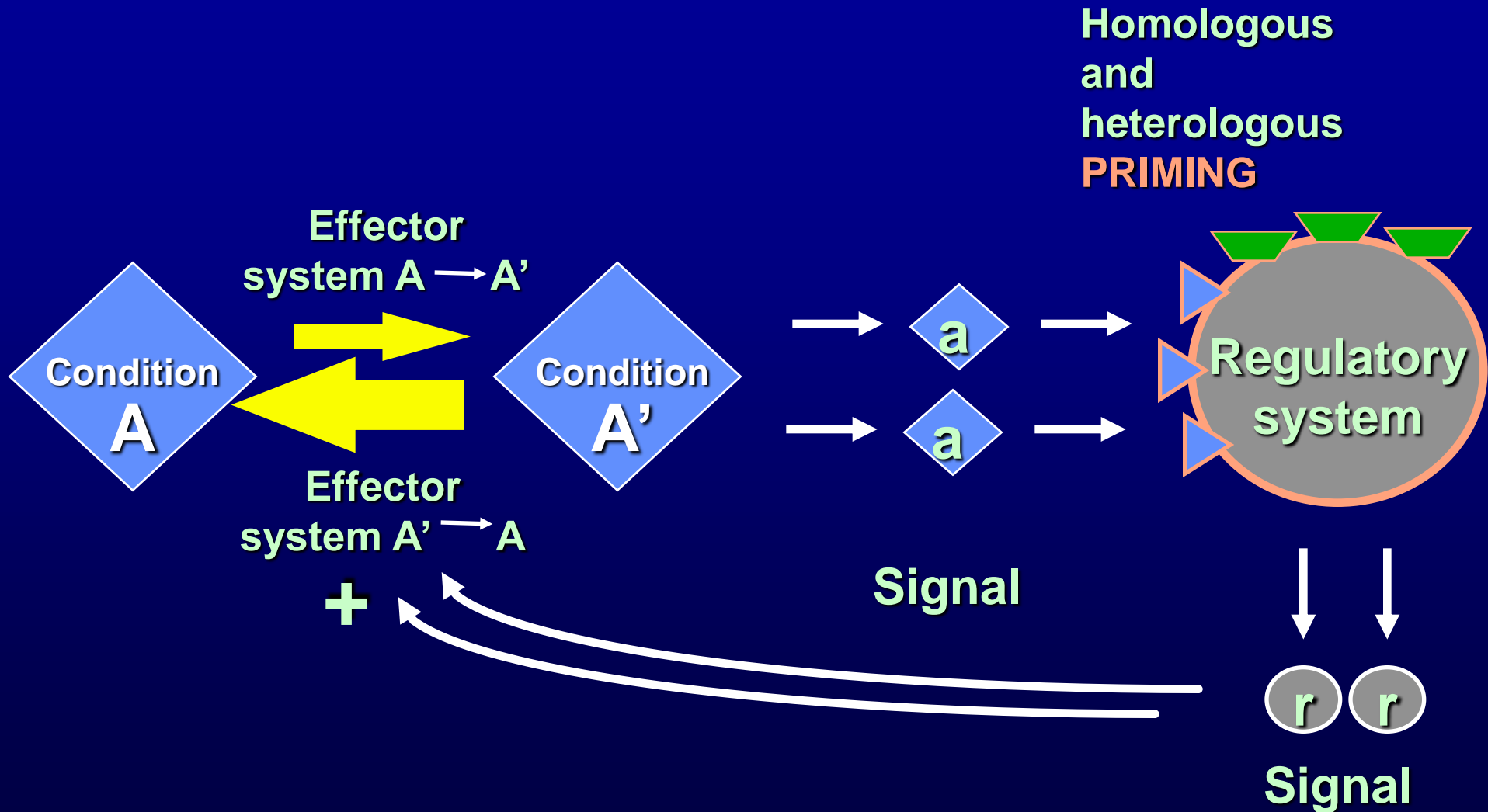
IN EVERY DISEASE MOST OF **SYMPTOMS** ARE PRODUCED BY THE REACTION OF ENDOGENOUS REGULATORY SYSTEMS



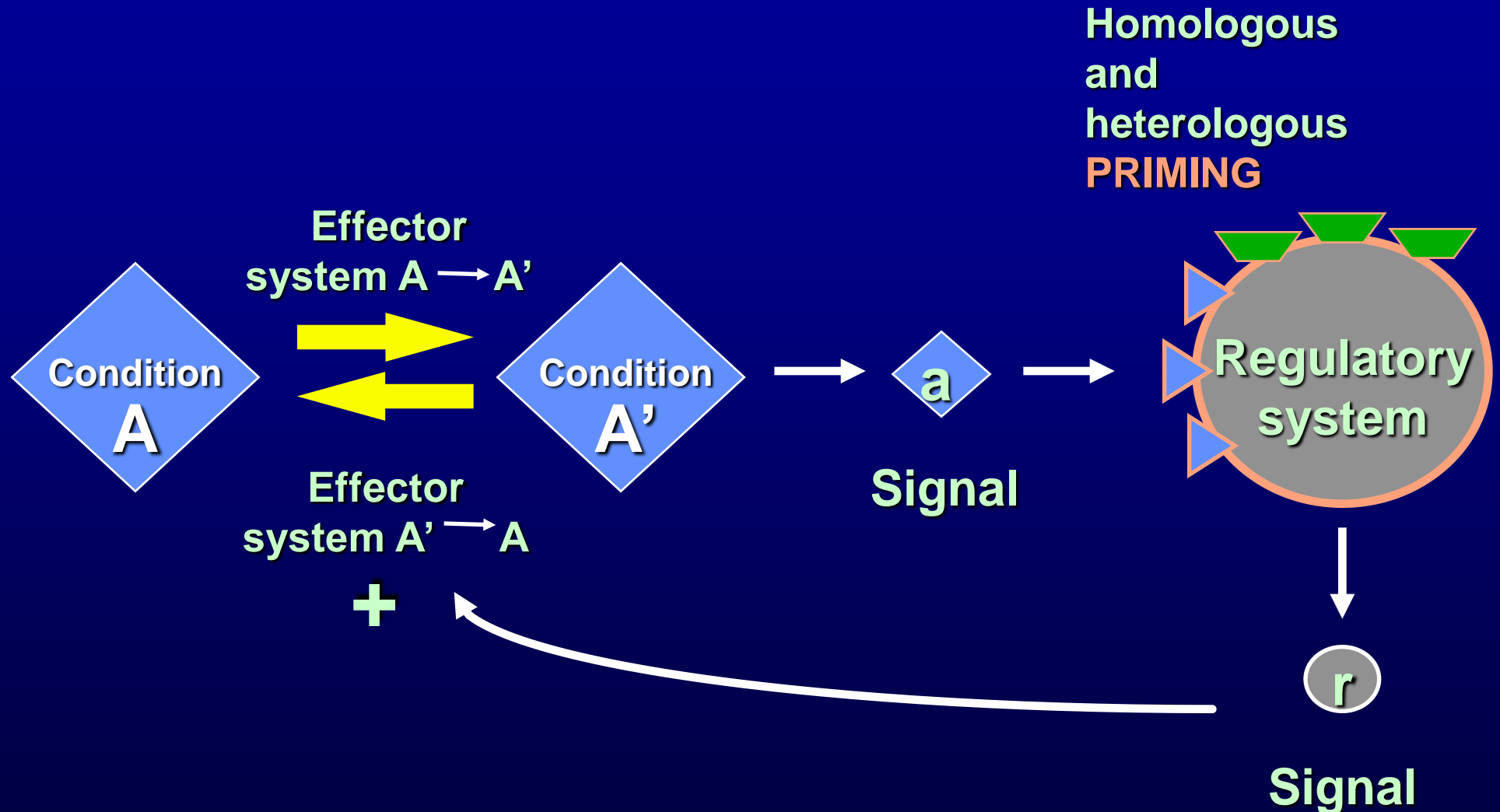
ORIGIN OF SYMPTOMS



IF THE STRESSOR IS REMOVED, THE EQUILIBRIUM IS RESTORED



“PRIMING” OF REGULATORY SYSTEM REPRESENTS THE MEMORY OF THE EFFECTIVE REACTION



PRIMING: Increase of SENSITIVITY or of RESPONSE to a second stimulus after the challenge with a first stimulus

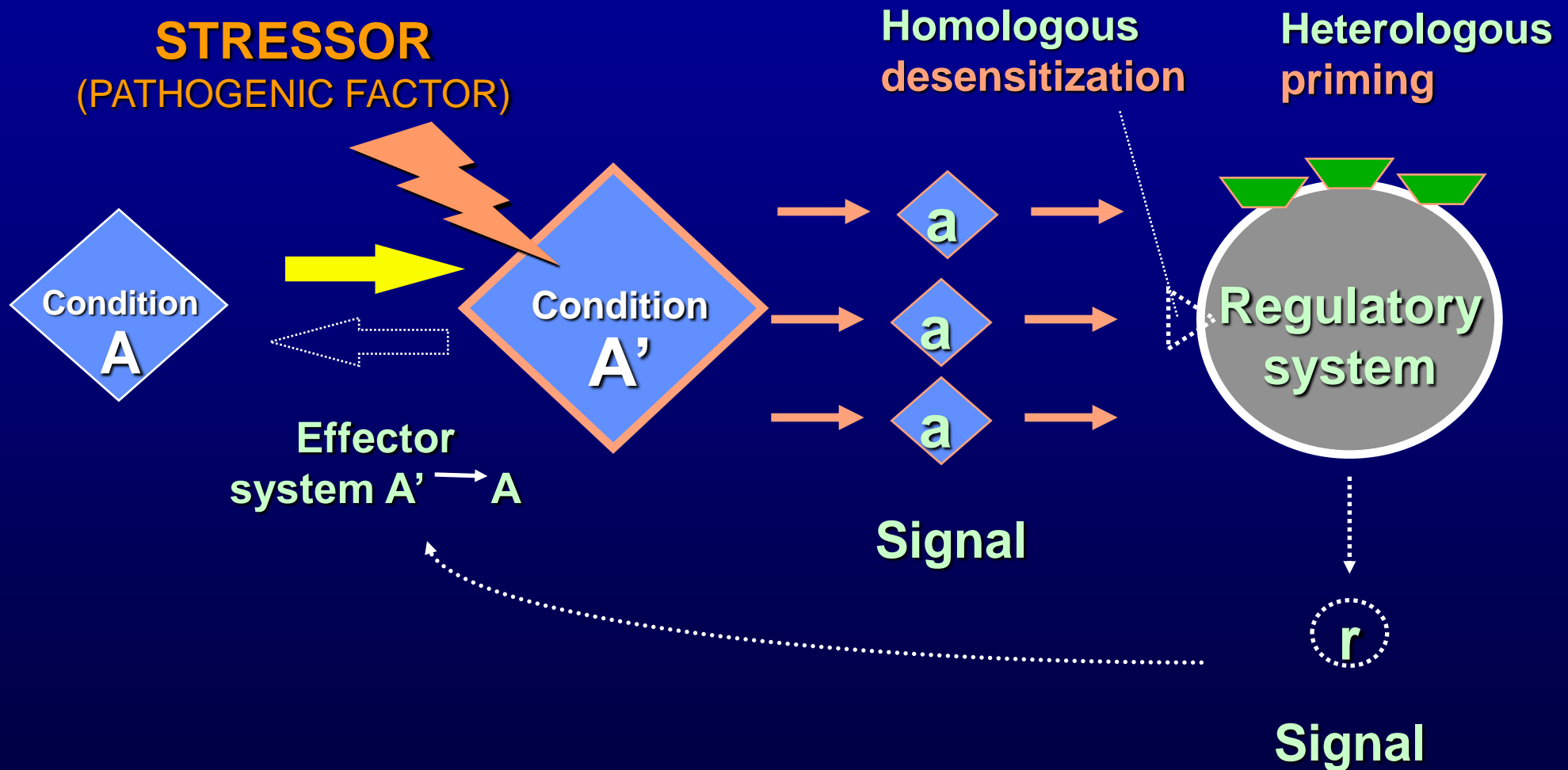
EXAMPLES

- Cellular models (e.g. Leukocytes)
- Tissues (e.g. Bronchial reactivity)
- Organs (e.g. Liver induction, heart)
- Systems (e.g. Nervous and immune hypersensitivity)

MECHANISMS

- Receptors increase
- Positive gating (signal transduction)
- Decrease of inhibitory pathways
- Increase of genes expression
- Pre/post synaptic conditioning
- Organ hypertrophy

IF STRESS CONTINUES, THE REGULATORY SYSTEM MAY CHANGE BY ADAPTATION / DESENSITIZATION

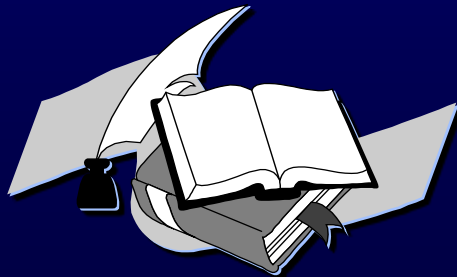


SUBOPTIMAL



*“AIDS patients with **hypercortisolism** and clinical features of **peripheral resistance to glucocorticoids** are characterized by abnormal glucocorticoid receptors in lymphocytes”*

“Resistance to glucocorticoids implies a complex change in immune-endocrine function, which may be important in the course of immunodeficiency syndrome”



Norbiato et al., Cortisol Resistance in
Acquired Immunodeficiency Syndrome.
J. Clin. Endocrinol. Metab. 1992; 74: 608-613

POSSIBLE MECHANISMS OF THE **LOSS OF COMMUNICATION** IN THE HOMEOSTATIC SYSTEMS

- Homologous desensitization
- Loss/inactivation of signal molecules
- Auto-antibodies to receptors
- Inhibitory effects of bacterial toxins
- Chemical toxins: food, pollution, drugs, smoking
- Endogenous toxins: free radicals, complement, etc.
- Connective tissue sclerosis
- Deposition of cholesterol, amyloid, glycogen, etc.
- Mutation in genetic information: oncogenes, viruses

LOSS OF COMMUNICATION IN THE HOMEOSTATIC SYSTEMS

IS DELETERIOUS

(= TRULY PATHOLOGICAL)

BECAUSE THE DISORDER OF THE HOMEOSTATIC
SYSTEMS IS MAINTAINED AND CAN NOT
RECOVER SPONTANEOUSLY

THIS IS THE MAIN MECHANISM
OF THE **CHRONICIZATION**
OF DISEASES

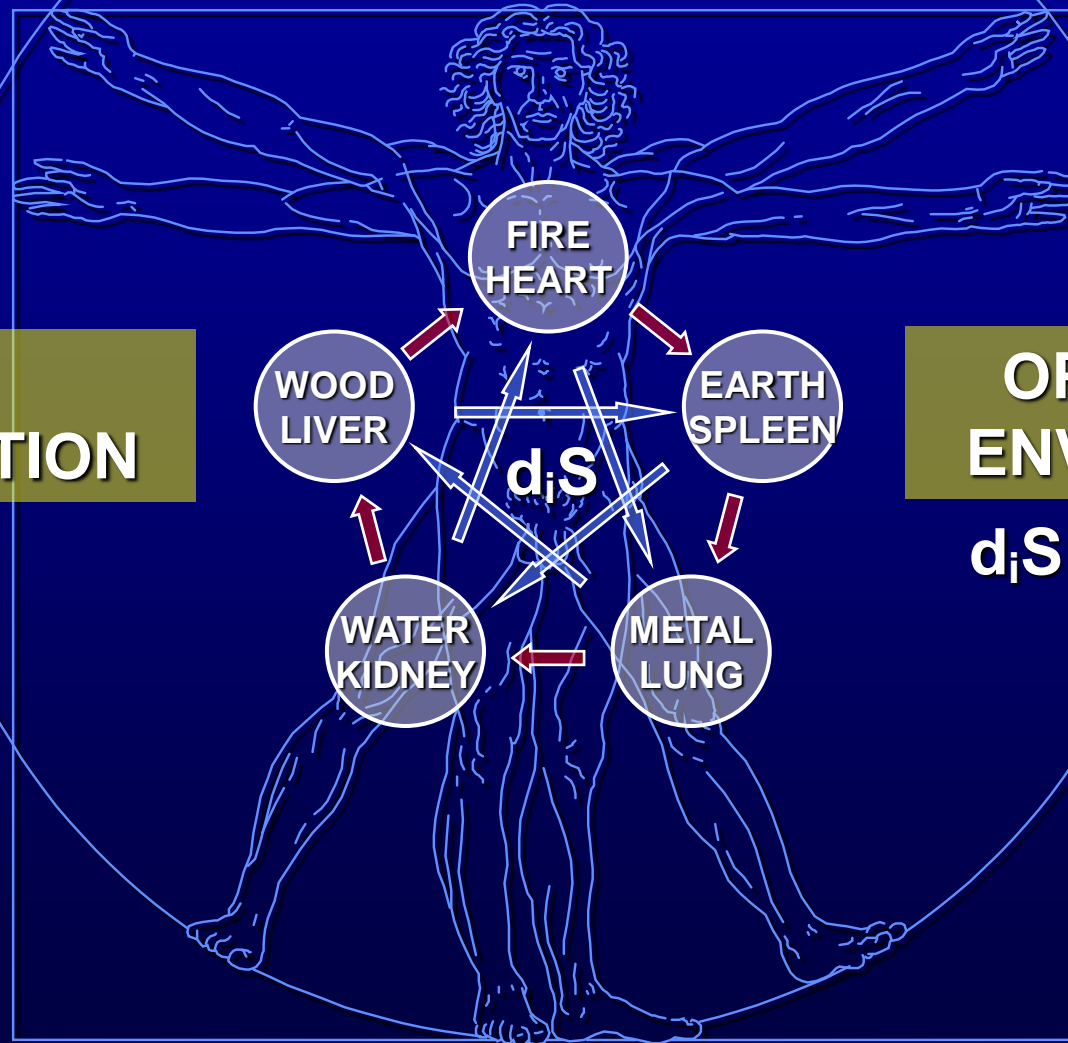
LIFE IS A CONTROLLED DYSEQUILIBRIUM OF THE CHEMICAL AND STRUCTURAL NETWORK OF THE BODY/MIND

TELEONOMY

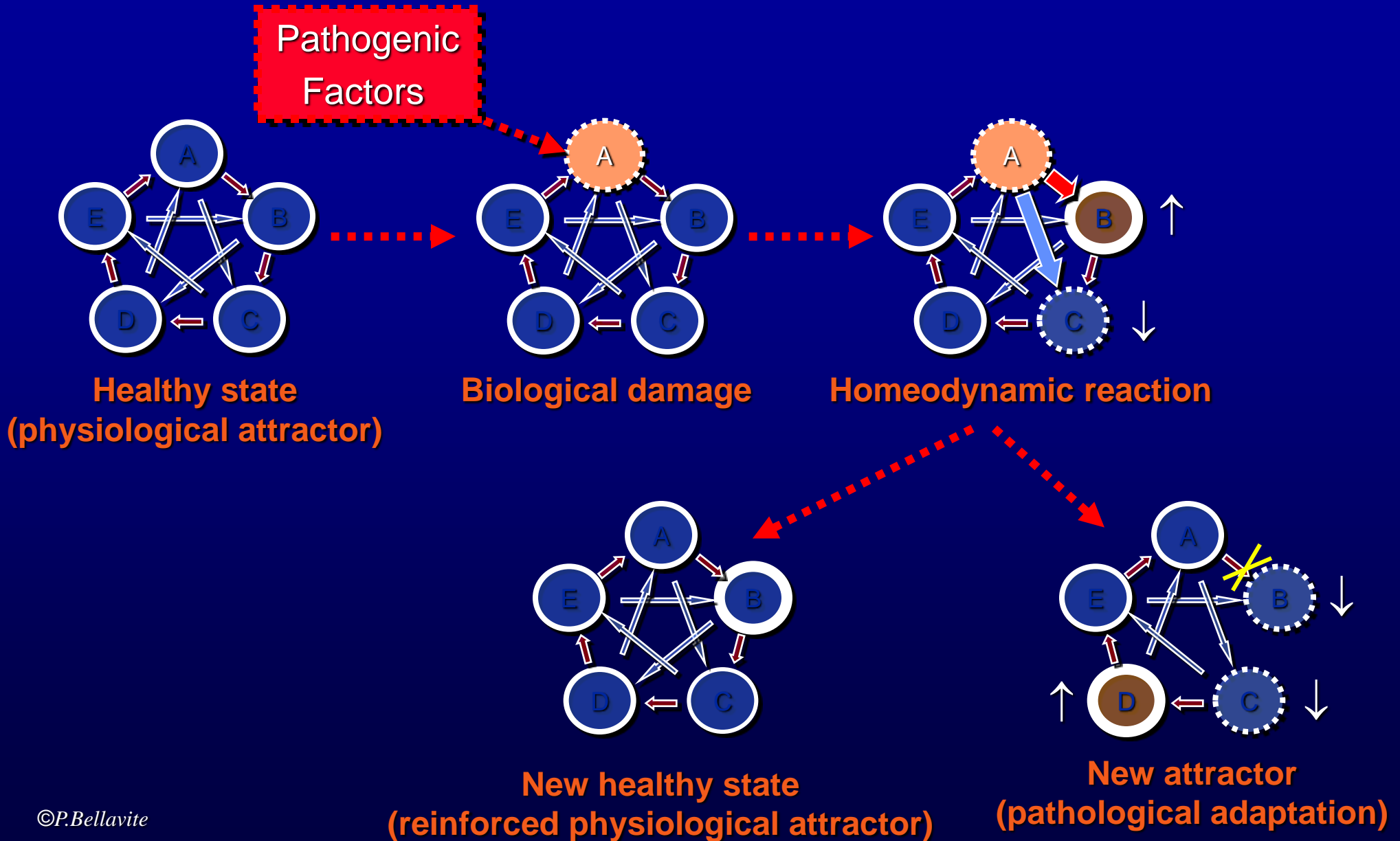
SELF-ORGANIZATION

OPENING TO ENVIRONMENT

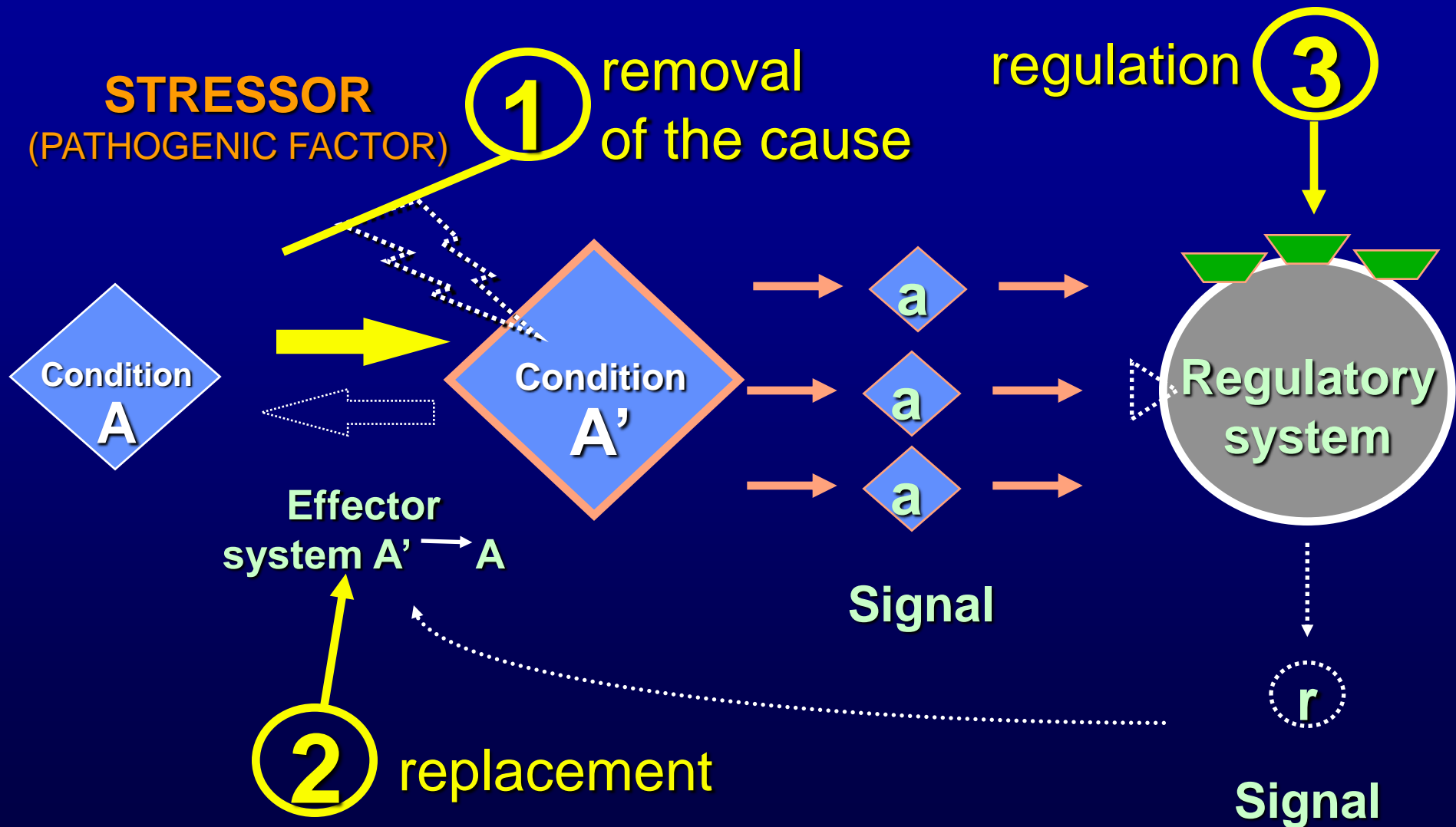
$$d_i S \rightleftharpoons d_e S$$



DISEASE DYNAMICS



HOW TO RESTORE THE NORMAL HOMEOSTASIS

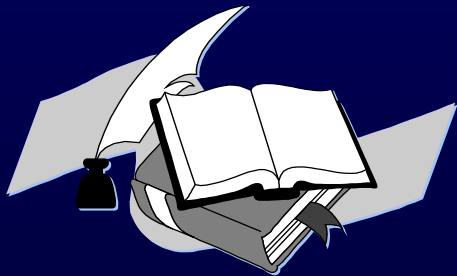


*“It has stood firmly in medicine until now that the single true and basic cure of a disease was a **causal** cure, that is, one founded on the discovery and removal of the cause.*

But it is not always possible to employ this type of cure...

Cases are of three types:

- *either the remote causes **cannot be found***
- *or they **cannot be removed***
- *or the action of the proximate cause on the organism **has become enrooted** for so long a time that it has become independent and continue even after the removal of the remote causes.”*

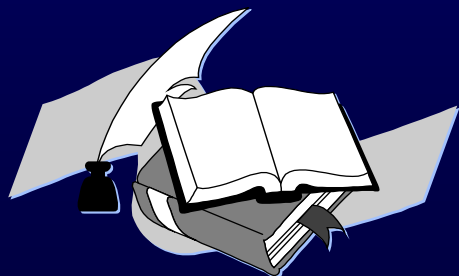


Quoted from **C.W.Hufeland**, In: **L.J. Boyd**. *A Study of the Simile in Medicine* , Boericke and Tafel, Philadelphia,1936. p. 145

*“When the remote causes cannot be removed, there is nothing left for the physician than to direct the cure against the **proximate cause** (the disease itself).*

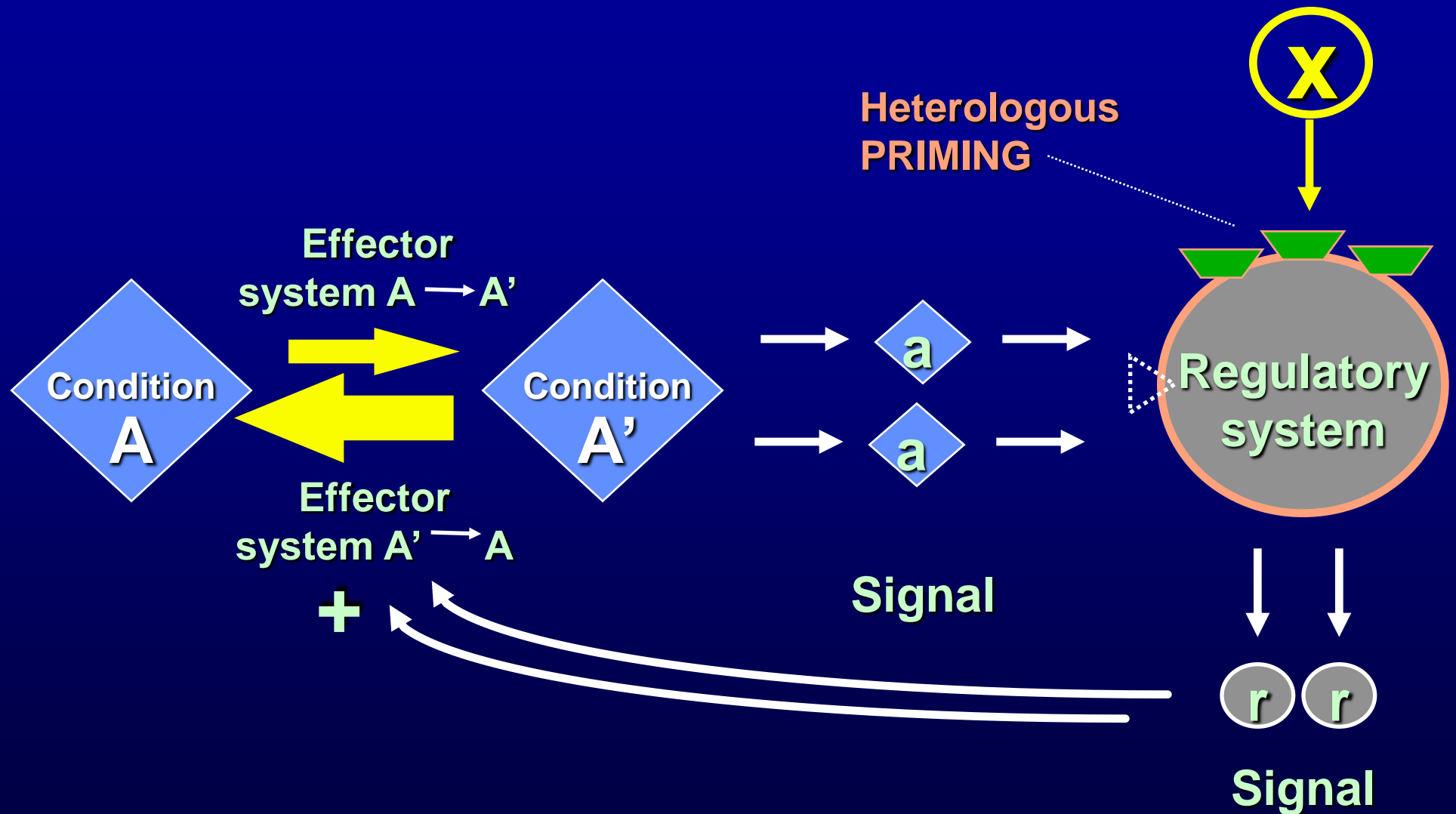
*If the fever continues after the removal of the remote cause, so we direct our cure against the fever itself and give **specifics** as china and other agents.*

*It will remain always very meritorious and must be considered as a progress in medicine that through homeopathy **this part of the specific cure works accurately and will bring firmer principles**”*



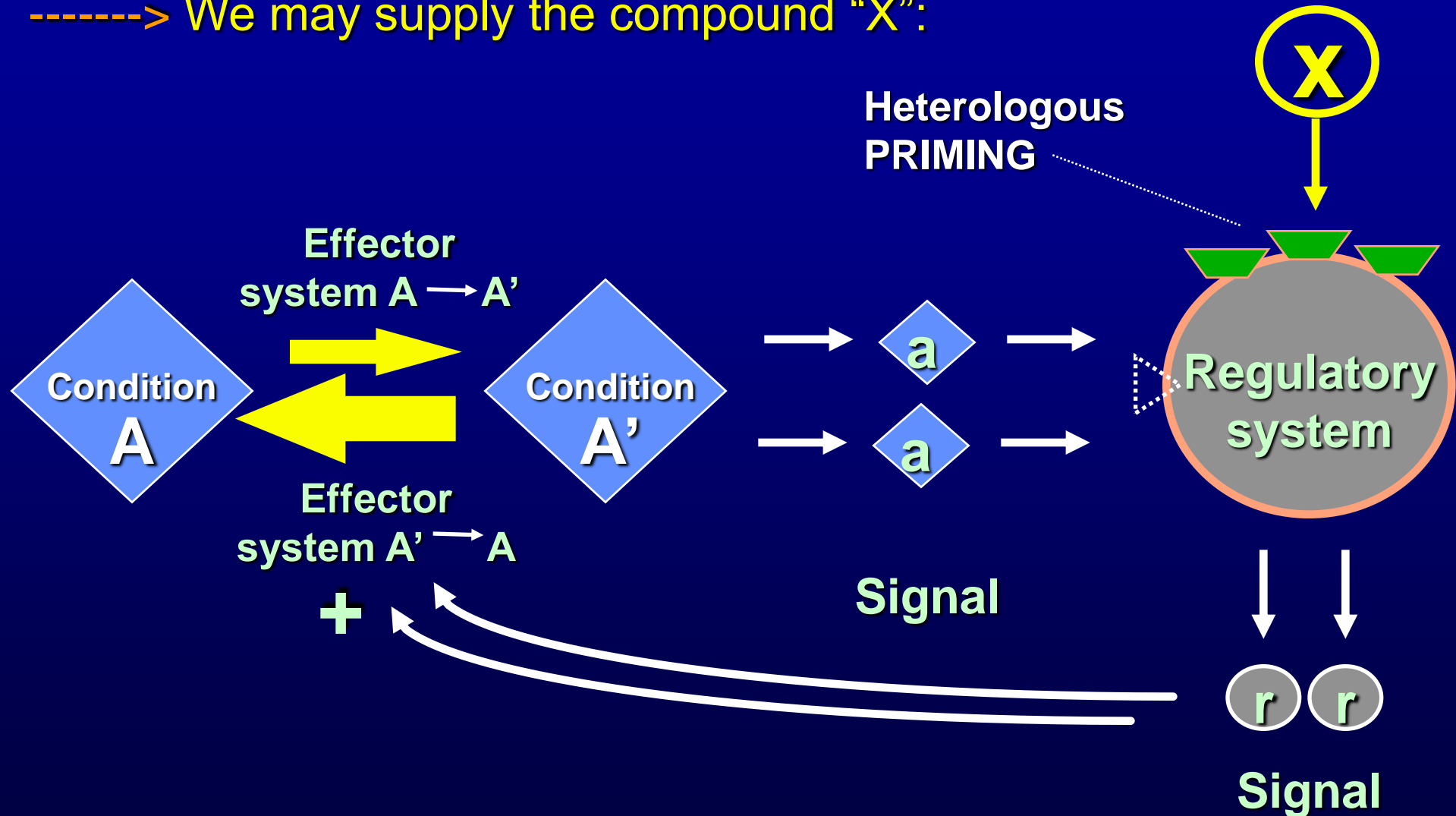
Quoted from **C.W.Hufeland**, In: **L.J. Boyd**. *A Study of the Simile in Medicine*, Boericke and Tafel, Philadelphia, 1936. p. 145

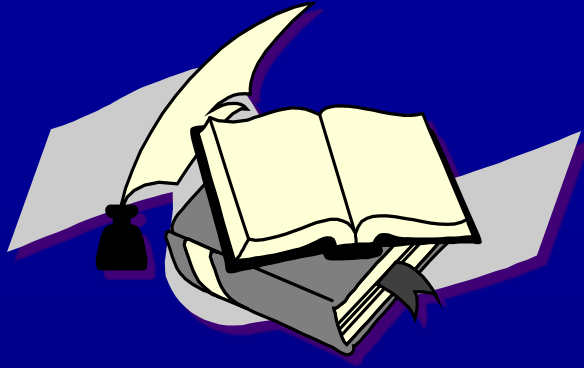
EFFECTIVE REGULATION (RECOVERY OF HOMEOSTASIS) MAY BE ACHIEVED BY STIMULATION OF PRIMED REGULATORY SYSTEM(S)



HOW TO IDENTIFY THE CORRECT (“X”) REMEDY?

1. If we know the receptor(s) and signal molecule(s) (“X”),
-----> We may supply the compound “X”:





Wu, X.M. et al. Selective suppression of antigen-specific Th2 cells by continuous micro-dose oral tolerance.

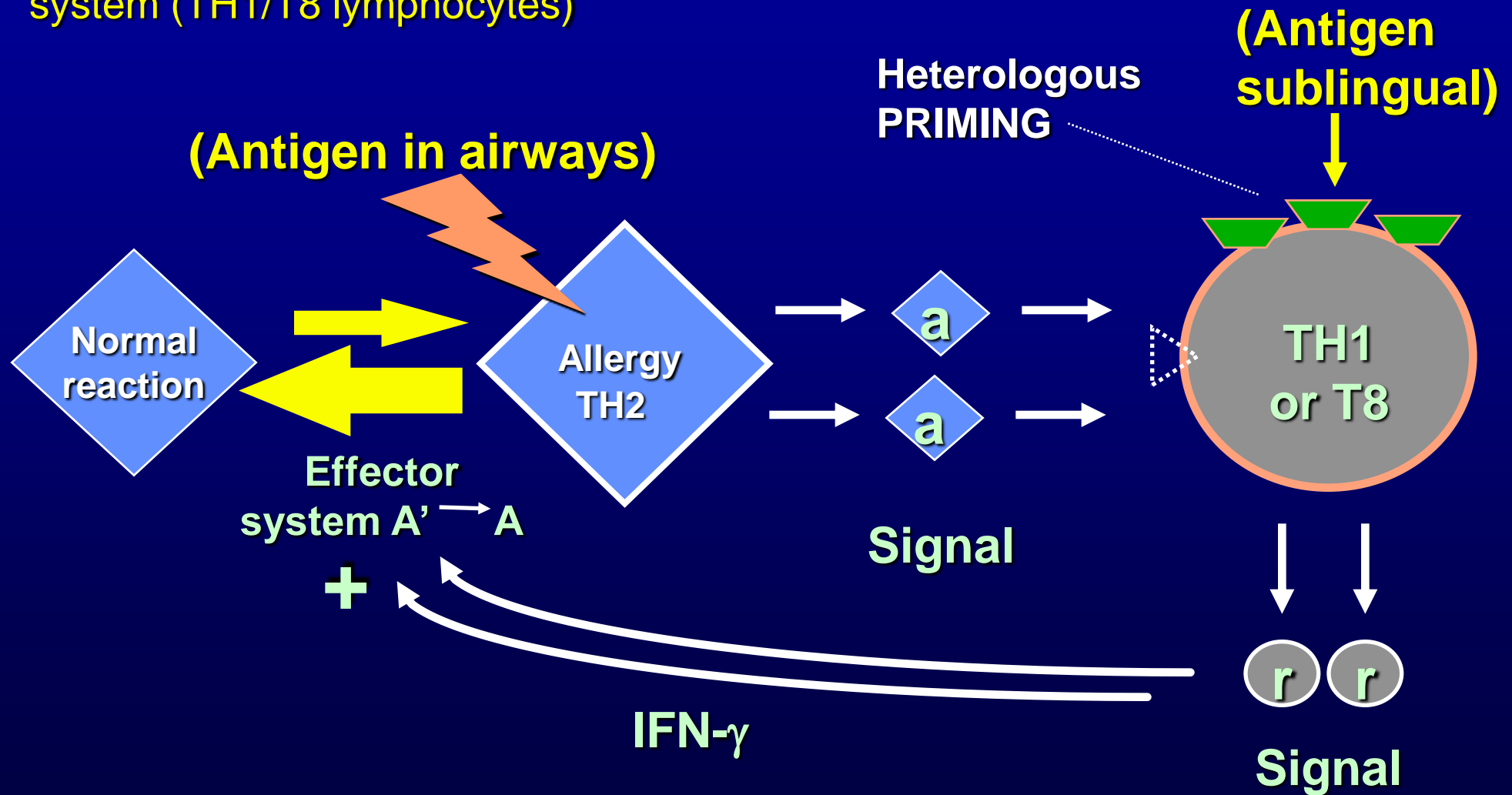
Eur. J. Immunol. 28:134-42,1998

*“This study suggest that **Ag-specific low responsiveness in Th2 cells**, which resulted in suppression of the Ag-specific IgE production, can be achieved by continuous feeding with **micro-doses of antigen**.*

It was found that the oral treatment induced down-regulation of Ag-specific TCR as well as down-regulation of B7-2 expression on antigen-presenting cells”.

EXAMPLE OF MOLECULAR REGULATION ACCORDING TO THE SIMILE

If we know that the ALLERGIC disease is maintained by TH2 CELLS stimulated by ANTIGEN -----> We may supply the SAME ANTIGEN to the regulatory system (TH1/T8 lymphocytes)





HOW TO IDENTIFY THE CORRECT REMEDY



Do we always know the primed receptors and their specific signal molecules in each individual case of disease?

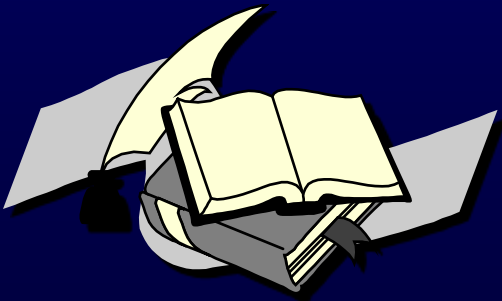


COMPLEXITY OF MODERN DISEASES

*“Many of the **common disorders** that constitute a major part of the health care budget in the Western world **are not caused by defects in single genes**”*

*“The hypothesis has evolved that variations at a **number** of different gene loci causing **subtle** or **minor** changes in the level of gene expression or function, may **predispose** an individual to development of disease”*

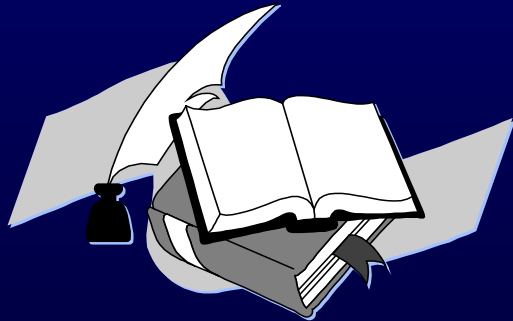
*“These genetic variations may then **interact with environmental factors** to determine an **individual’s** overall **risk** of developing clinical symptoms”*



Talmud and Humphries, in **Oxford Textbook of Pathology**, 1992

A “MODERN” VIEW OF DISEASE PATHOGENESIS

*“The inimical forces, partly **psychical**, partly **physical**, to which our terrestrial existence is exposed, do not possess the power of morbidly deranging the health of man unconditionally; but we are made ill by them only **when our organism is sufficiently disposed and susceptible** to the attack of the morbid cause”*



C.F.S. Hahnemann,
The Organon of Medicine (1820)
par. 31

Personality as independent predictor of long-term mortality in patients with coronary heart disease

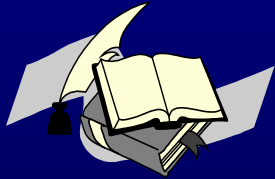
J. Denollet et al., *The Lancet* 1996; 347:417-421



“We found that type-D personality (the tendency to suppress emotional distress) was a significant predictor of long-term mortality in patients with coronary heart disease, independently of established biomedical risk factors”



“Psychological stress significantly increased the susceptibility to the common cold virus”



Cohen, S., Tyrrel D.S.J., Smith, A.P.

Psychological stress and susceptibility to the common cold.
N. Engl. J. Med. 325:606-612, 1991

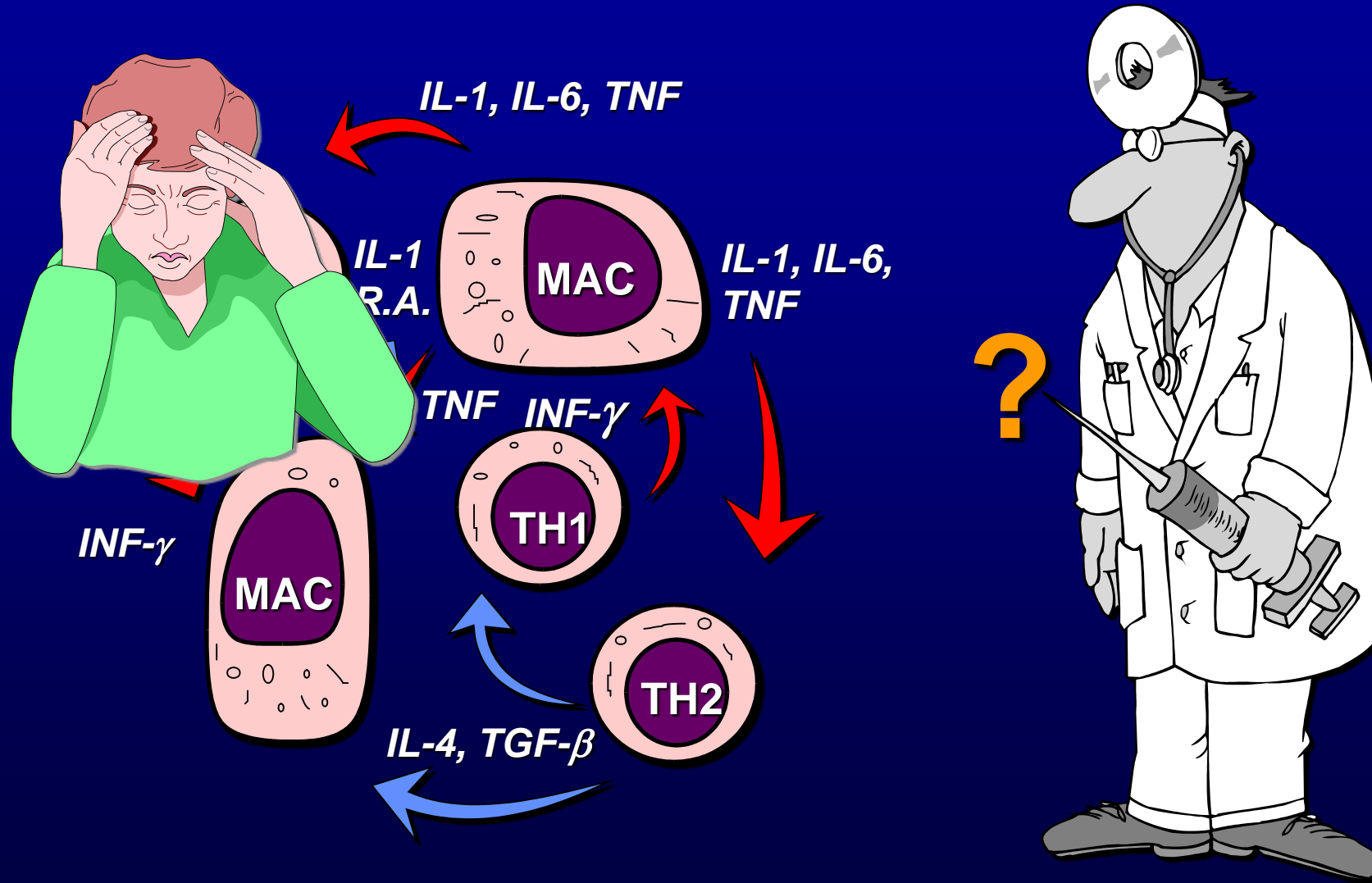


Stone, A. et al.

Development of common cold symptoms following experimental rhinovirus infection is related to prior stressful life events. *Behav. Med.* 18:115-120, 1992

“The more we learn, the less certain we are”

(J. Cohen, *Science* 260, 1254, 1993)





Socrates

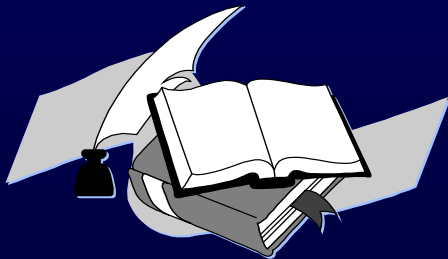
*I know...
that I don't know*



HOW TO IDENTIFY THE CORRECT REMEDY



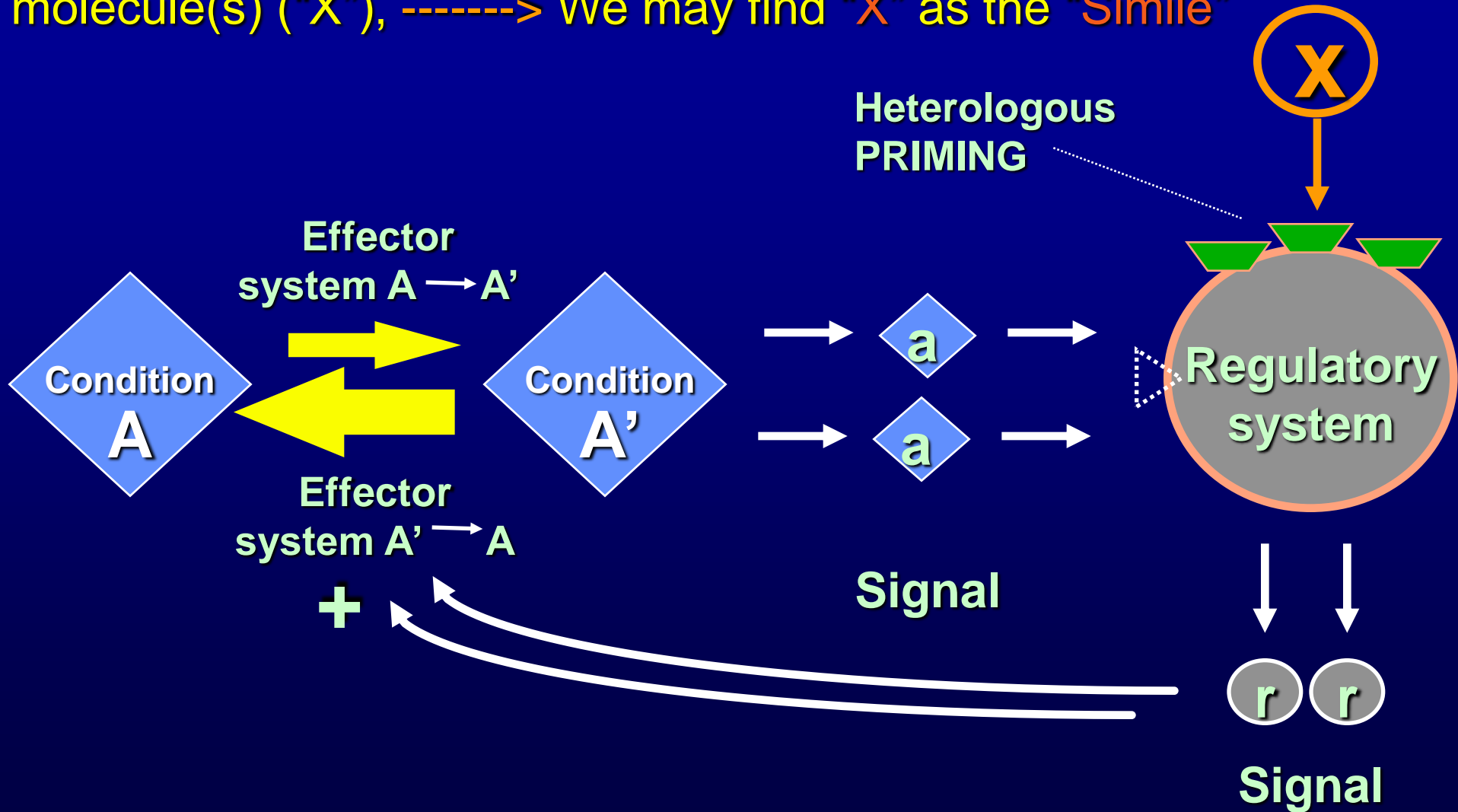
*“It is not, however, to construct so-called systems, by interweaving empty speculations and hypotheses concerning **the internal essential nature of the vital processes and the mode in which diseases originate in the invisible interior of the organism, (whereon so many physicians have hitherto ambitiously wasted their talents and their time)... in order to astonish the ignorant - whilst sick humanity sighs in vain for aid”***



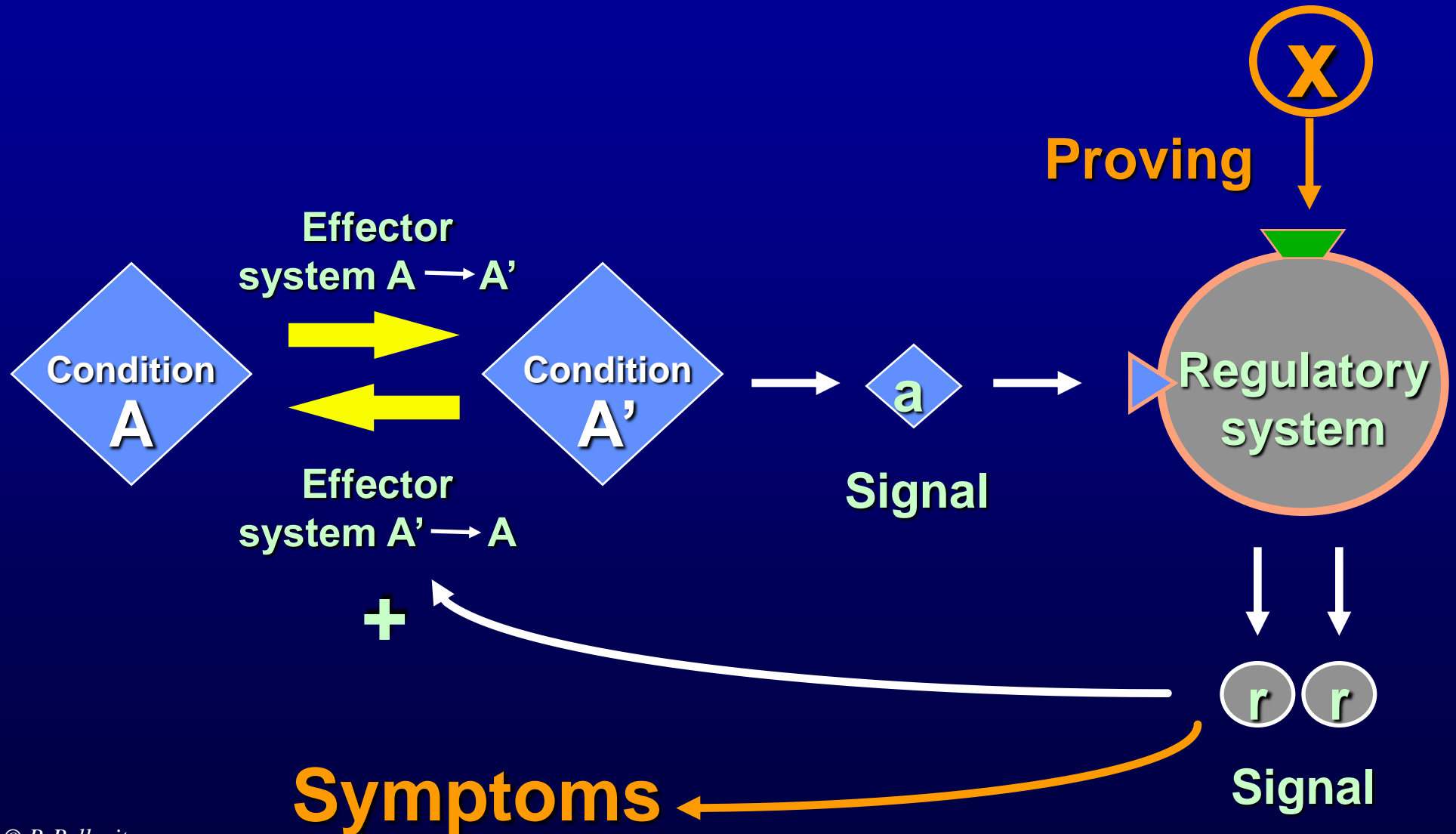
C.F.S. Hahnemann, Organon, Note to par. 1

HOW TO IDENTIFY THE CORRECT (“X”) REMEDY?

2. If we do not know details about the receptors and the signal molecule(s) (“X”), -----> We may find “X” as the “Simile”



THE CORRECT REMEDY ("X") IS THE REMEDY WHICH IN **HEALTHY** SYSTEM
PRODUCES SYMPTOMS SIMILAR TO THOSE OF THE DISEASE



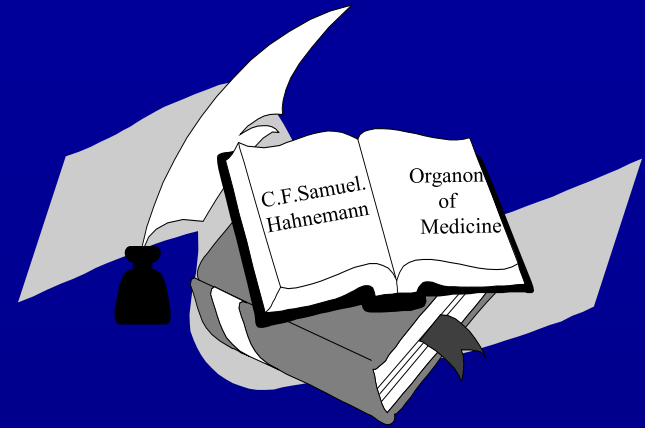
ADVANTAGES OF SYMPTOMS ANALYSIS

- Provides information of the complexity of endogenous reactions (the internal “essential nature” of disease)
- Evaluates both psychological and organic modifications
- Allows the identification of dynamical evolution of the disorder in time
- Does not require high-tech equipment

DISADVANTAGES OF SYMPTOMS ANALYSIS

- Dependent on the capacity of the patient to express and explain his feelings
- Bias due to subjective interpretations by the doctor
- Difficult synthesis of a complex series of data
- Difficult quantitative evaluation

C.F.S. Hahnemann
Organon, par. 50



*“The great, the sole therapeutic
law of nature: cure by
symptom similarity!”*

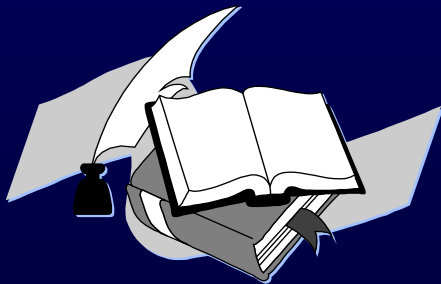
WORKING HYPOTHESIS ON HOMEOPATHY

1. The therapeutic similarity of drug action may be fundamentally based on the widespread phenomenon of inversion of biological effects dependent on the **dose** and/or on the **physiological state** of the receiver
2. The medicine that has been chosen according to the **similia principle** may be perceived by **specific** regulatory systems - that have a crucial role in the dynamic of the diseases - a sub-toxic **pathogenic information**
3. Specificity of information may be based on the **sensitization (priming)** of the receiver due to biological stress, on the use of **ultra-low doses/high dilutions** of medicines and on the **complexity** of the remedy actions at various levels
4. The specific pathogenic information may trigger a **homeodynamic reaction** that shifts the global dysequilibrium of the ill person toward **a new attractor**, proximal to the healthy state
5. The clinical application of the **similia principle** (symptom similarity) may allow the identification of specific remedies even in the lack of detailed knowledge about the single molecular mechanisms of disease and of drug action
6. The information of homeopathic medicines may have either **chemical** nature (ultra-low-dose) or **physical** nature (high-dilution/dynamization), or **both**

Hering's law

Healing proceeds:

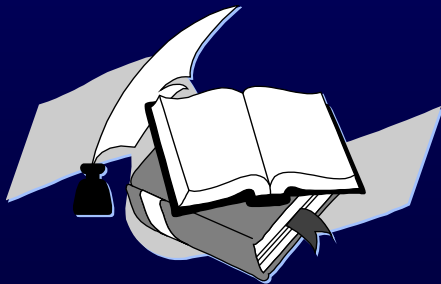
- 1. From above to below*
- 2. From inside to outside*
- 3. From most important organs to less important organs*
- 4. In inverse order of symptom appearance*



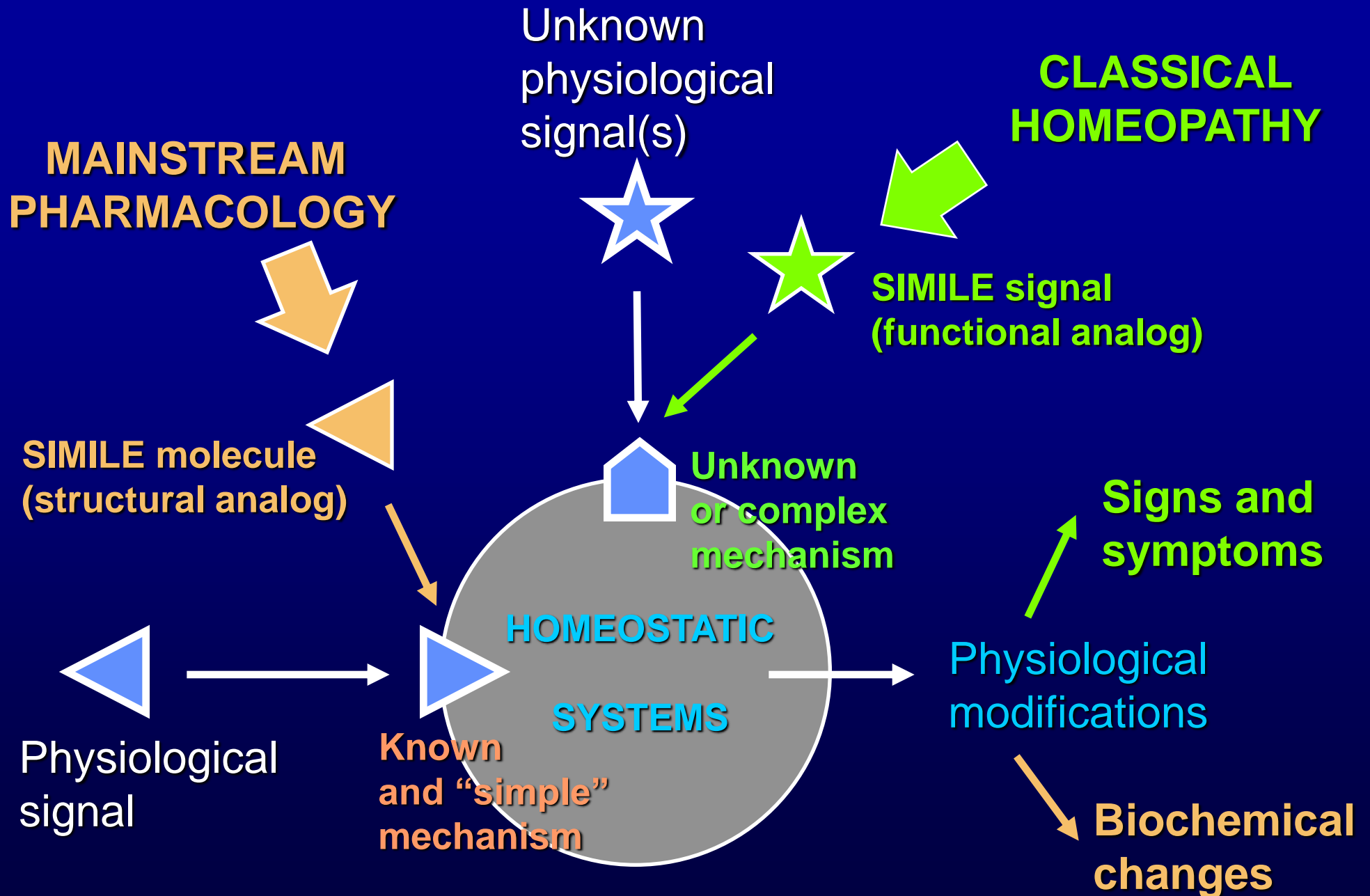
G. Vithoukas, La scienza dell'omeopatia,
ed. Libreria Cortina, Verona, 1986

A modern application of the “Hering’s law”

- *Of 124 patients with asthma and allergic rhinitis, 102 (82%) of cases had an inverse relationship between the peak times of symptoms consistent with asthma and allergic rhinitis.*
- *Of 24 patients with asthma and atopic dermatitis, 18 (75%) of cases had an inverse relationship between the peak times of symptoms consistent with asthma and atopic dermatitis.*
- *These results have tempted us to consider an allergic cycle theory that asthma may be inactive when AR or AD is active.*



Umeki S, Allergic cycle: relationships between asthma, allergic rhinitis, and atopic dermatitis. *J. Asthma* 1994, 31: 19-26



TWO DISTINCT APPROACHES TO THE REGULATION THERAPY



CONVENTIONAL MEDICINE



MAY BE INDICATED WHEN:

- THE REMOTE CAUSE OF DISEASE IS KNOWN AND CAN BE REMOVED
- THE PROXIMATE MECHANISM IS KNOWN AND CAN BE MODIFIED
- A SPECIFIC DRUG IS AVAILABLE



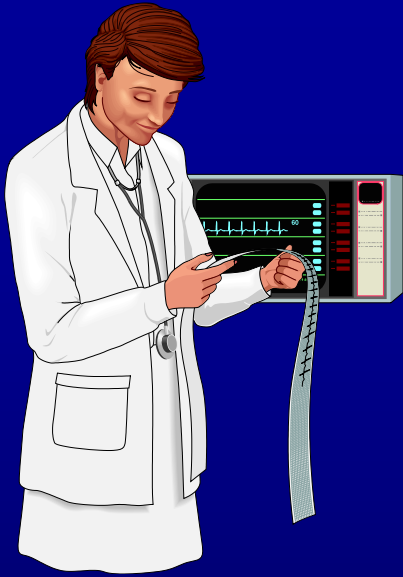
CLASSICAL HOMEOPATHY



MAY BE INDICATED WHEN:

- THE INDIVIDUAL DYNAMICS OF DISEASE ARE KNOWN
- A POSITIVE REACTION TO THE REMEDY IS POSSIBLE

INTEGRATED MEDICINE



**MEDICAL
SCIENCE**

→ Research methodology →

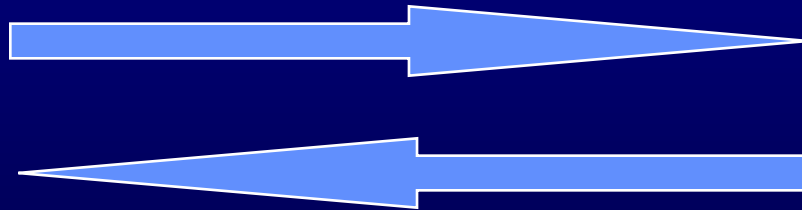
→ Molecular biology →

→ Neuroimmunology →

→ Biophysics →



**HOMEOPATHIC
TRADITION**



← 200 years of observations ←

← Holistic clinical approach ←

← Heuristic principles ←
(new ideas for research)



I hope we got some light!