

SLOW MEDICINE

FIRENZE, FEBBRAIO 2020

PIER LUIGI LUISI, INTRODUCING

The Systems View of Life

By the best-selling author of *The Tao of Physics* and *The Web of Life*,
and the author of *The Emergence of Life and Mind and Life*

Over the past 50 years, a new systemic conception of life has emerged at the forefront of science. Now emphasis has been given to complexity, networks, and patterns of organization leading to a new kind of biology: *“network biology”*.

The book integrates the natural, social, and human sciences by bringing the systems view of life into a dialogue with neuroscience. Linking a modern view through philosophy and across scientific disciplines, it leads to a new paradigm of life, one that is conceptually clear, rigorous, and free of restrictions on culture, social, and economic and standing of education. The implications of the systems view of life for health care, management, and societal development also become visible in this book.

Written for a wide range of readers, this book is an essential reading for students and researchers interested in understanding the new systemic conceptions of life and its implications for knowledge in philosophy, biology, economics, and political science, psychology, and law.

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Cover illustration: earth receiving rain from clouds, which is like a system.
Book cover design: the cover of *The Tao of Physics* (New York, Mass.: 1985).
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Capra and Luisi
The Systems View of Life

Fritjof Capra and Pier Luigi Luisi

The Systems View of Life

A Unifying Vision



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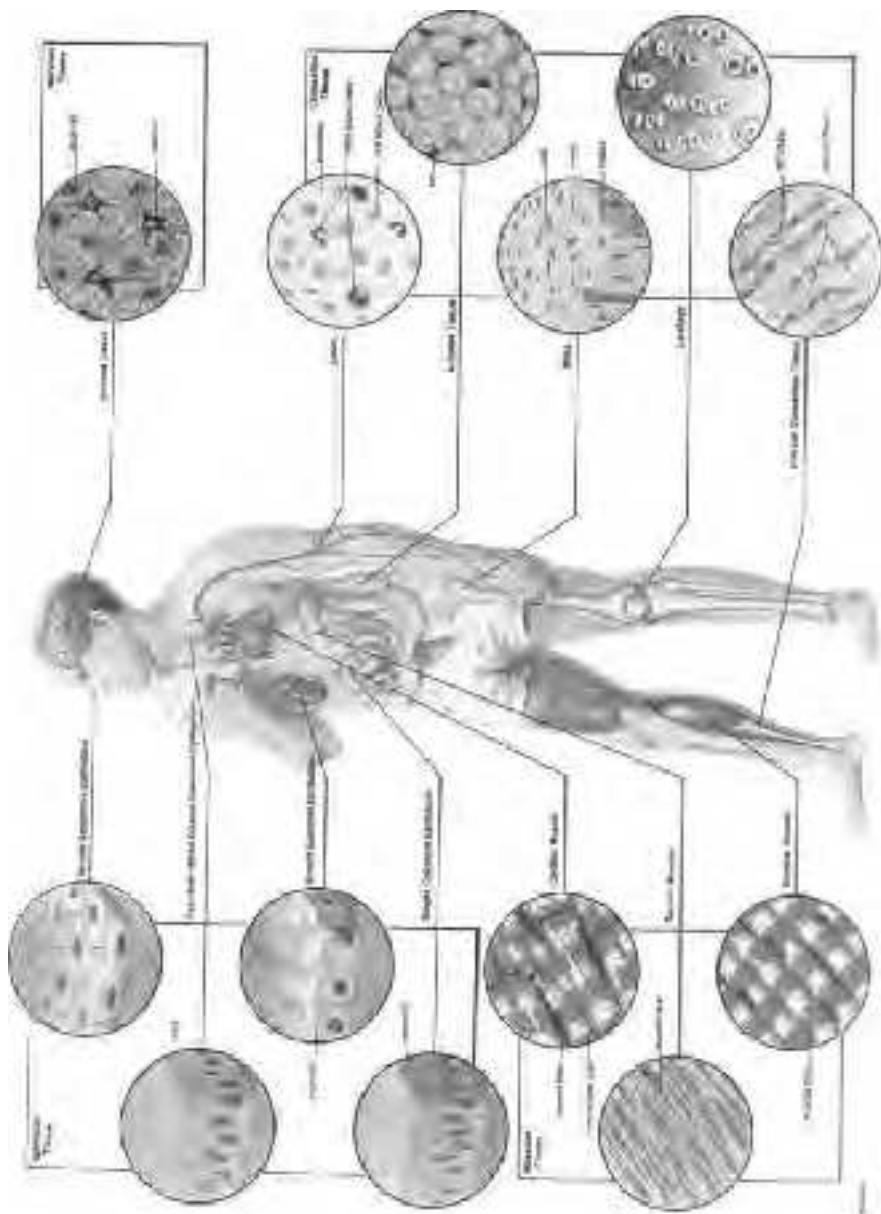
VITA E NATURA
UNA VISIONE SISTEMICA

Fratelli Capra

Pier Luigi Lutisè

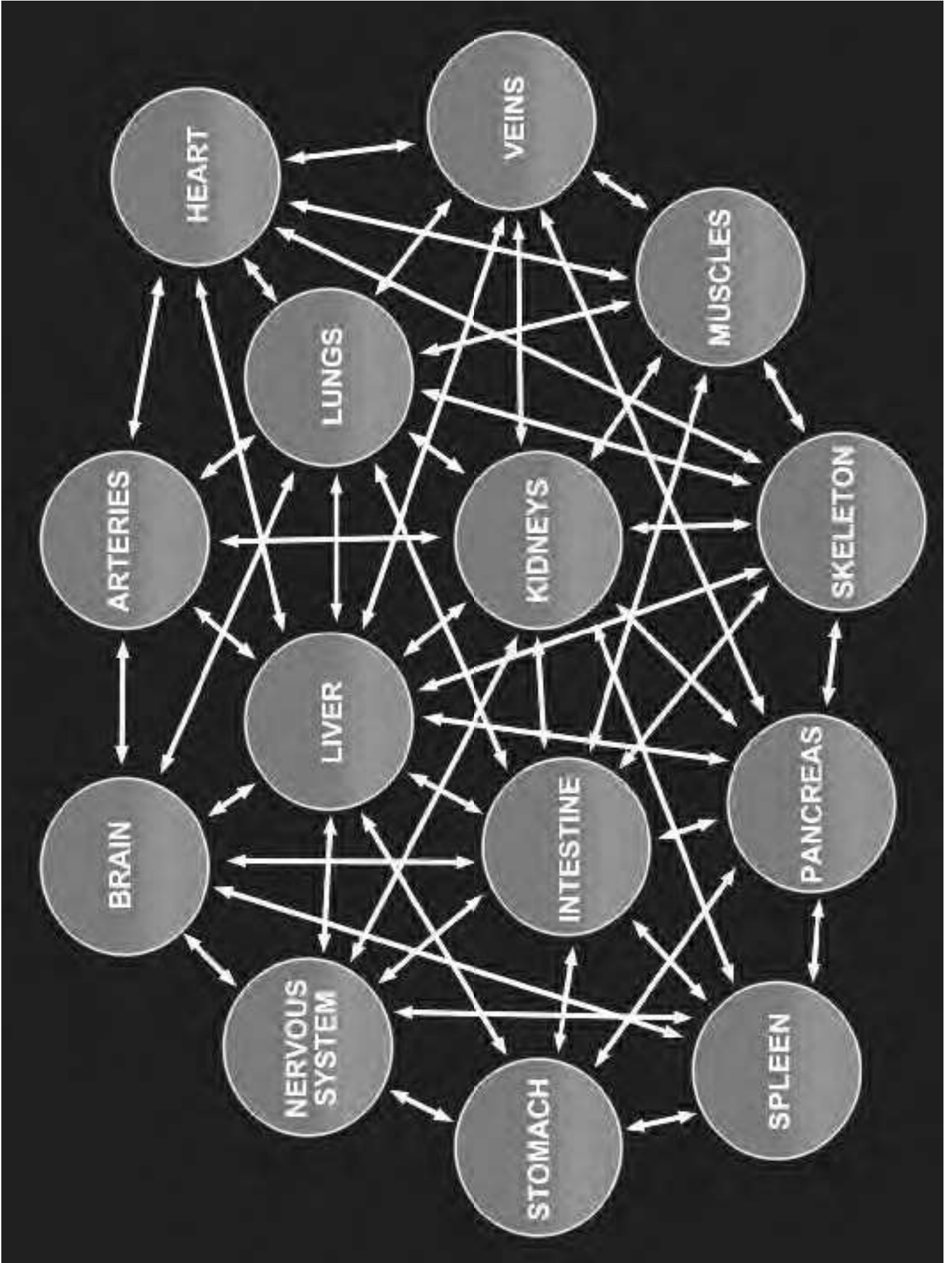


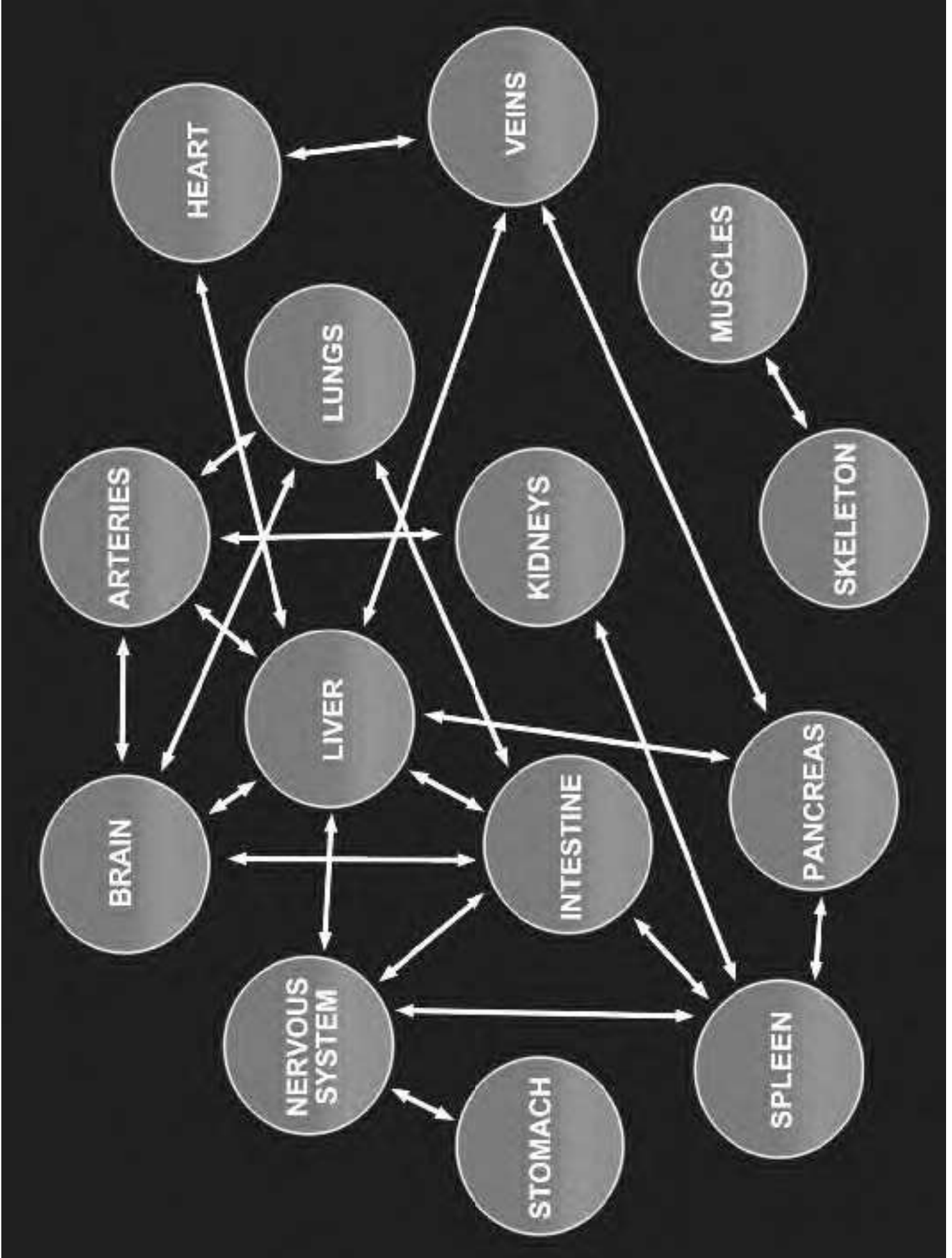
Aboca



59 Human Tissues
Figure 3.1

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BRAIN

ARTERIES

HEART

NERVOUS
SYSTEM

LIVER

LUNGS

STOMACH

INTESTINE

KIDNEYS

VEINS

SPLEEN

PANCREAS

MUSCLES

SKELETON

Most of the Vedanta teachings, and also of Buddhism, sees reality as a web of causal interactions, so that all elements of the world are part of a unique gigantic dynamic network.

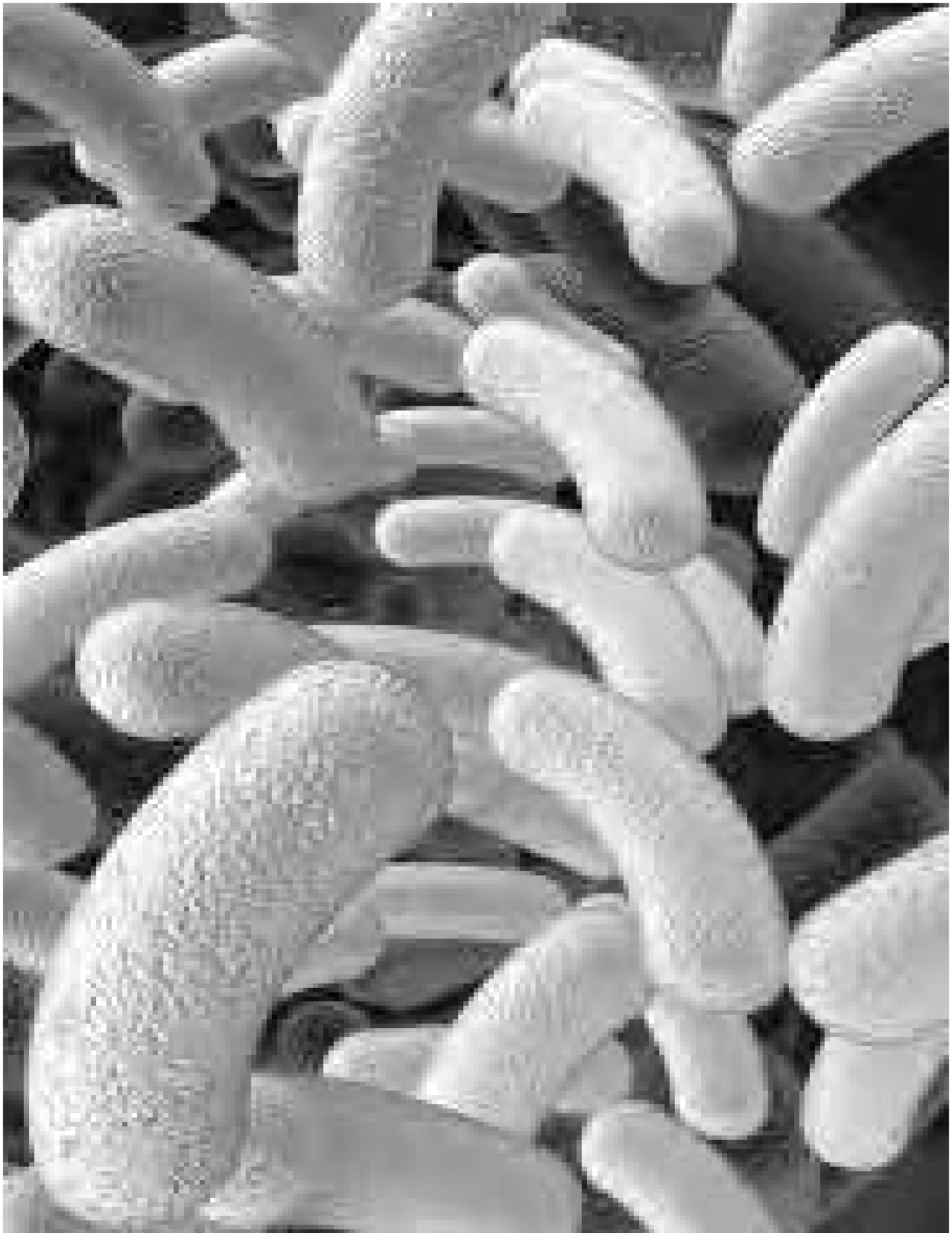
This unitarian view has been in large part maintained till our time. Influencing also medicine and even science.

Instead, science and philosophy in the western world, been dominated for the last centuries by the Cartesian (Galileo, Newton) mechanistic perspective- based on the scientific analytical procedure.

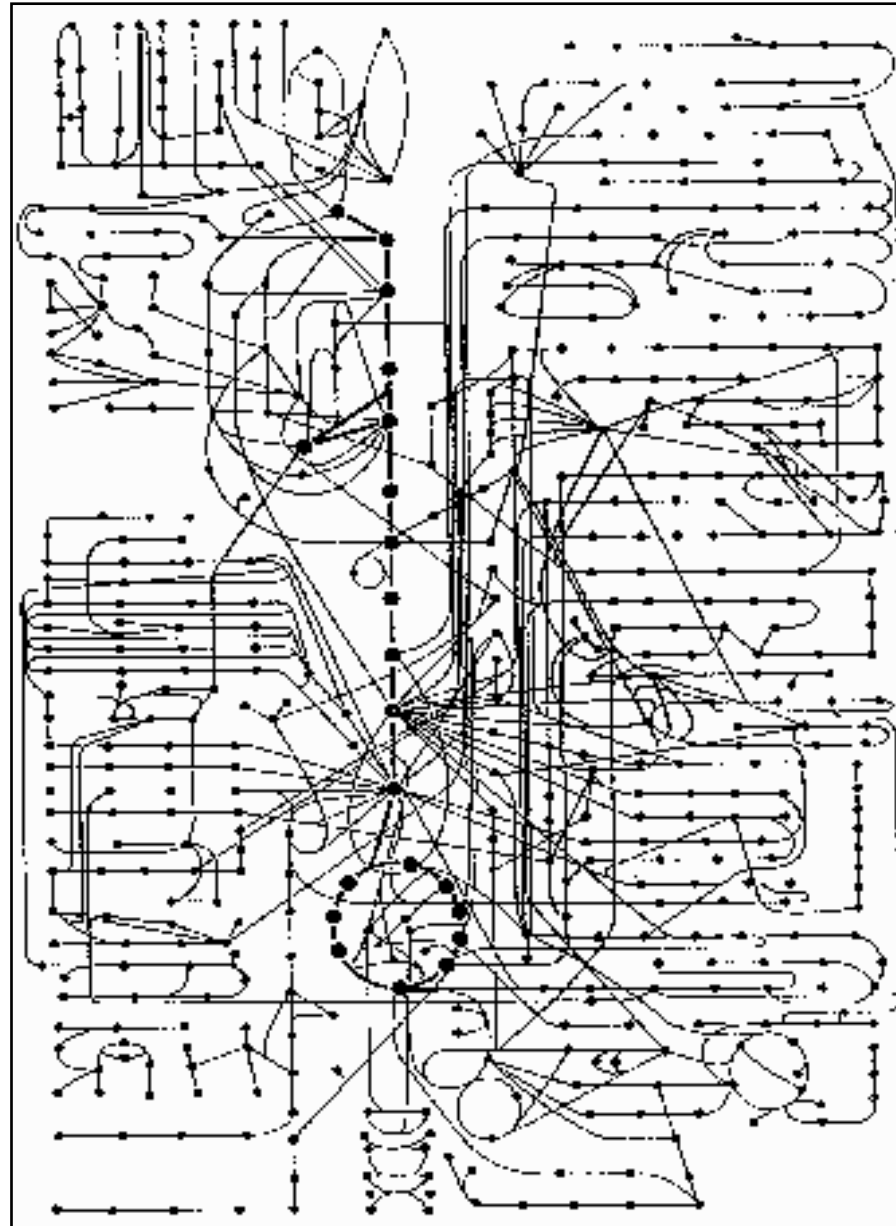
Accordingly, to study a complex system, one has to analyse the single parts individually, and the knowledge of the whole is given by the sum of the knowledge of the single parts.

With a drastic division between body and mind (res cogitans and res extensa).

Medicine became a matter of the body.



A maze illustrating the chemical reactions that interconvert small molecules in cells.



fatto: La disfunzione di un enzima produce la malattia

approccio meccanicistico della medicina classica:

studiare come funziona l'enzima, cercare i farmaci specifici, per inibirlo, o potenziarlo, eventuale approccio genetico

approccio sistemico: perchè è avvenuto questo? Come prevenirlo e curarlo

quali sono le cause individuali, anche psicosomatiche, e anche il contesto ambientale e sociale?

Cos'è la salute?

La si può definire in termini analitici e quantitativi

Pensare alla salute in analogia alla vita stessa

**Come esperienza soggettiva di equilibrio dinamico,
cognitivo e continuo,
in interazione continua con l'ambiente e la società**

Causality is indeed a central pillar of most philosophical Buddhism. In particular, the Buddhist *pratiya-samutpada* recites the following:

“if there is this, there is that; if there is that, there is this”-

implying namely not only a linear causality, and co-dependent arising, but also a kind of feedback, typical of the systemic thinking.

consider the cumulative effect of the two complementary concepts of co-dependent arising (pratitya-samutpada) and that of impermanence (anitya):

if all things are mutually linked and causally interdependent, but at the same time they continuously change, then the entire universe is not made by isolated, independent things, but is a dynamic, totally interactive process.

The new scientific thinking from 1930 on

- John von Neumann (1903-57)
- Gregory Bateson (1904-1980)
- Heinz von Foerster (1911-2002)
- Alan Turing (1912-54)
- Norbert Wiener (1894-1964)
- Paul Weiss (1901-2002)
- Jean Piaget (1896-1980)
- Ilya Prigogine (1917-2003)
- Maturana (1928) and Varela(1946-2001)
- **emphasizing self-organization, holistic complexity, systems thinking, emergent properties, collective properties, non-linearity**