

Milieus of Creativity

Peter Meusbürger (Heidelberg University)

1910

**Creativity as personal
(innate) attribute**

Personal characteristics
of geniuses, gifted
persons, creative artists
and scientists

1950

Creativity as process

creative performance and
problem-solving

1980

**Creative situation,
milieu or environment**

Interaction between
talented persons and
their environment

2000

Fritz Machlup

Jean Gottmann

Daniel Bell

Peter Drucker

Olin Wright

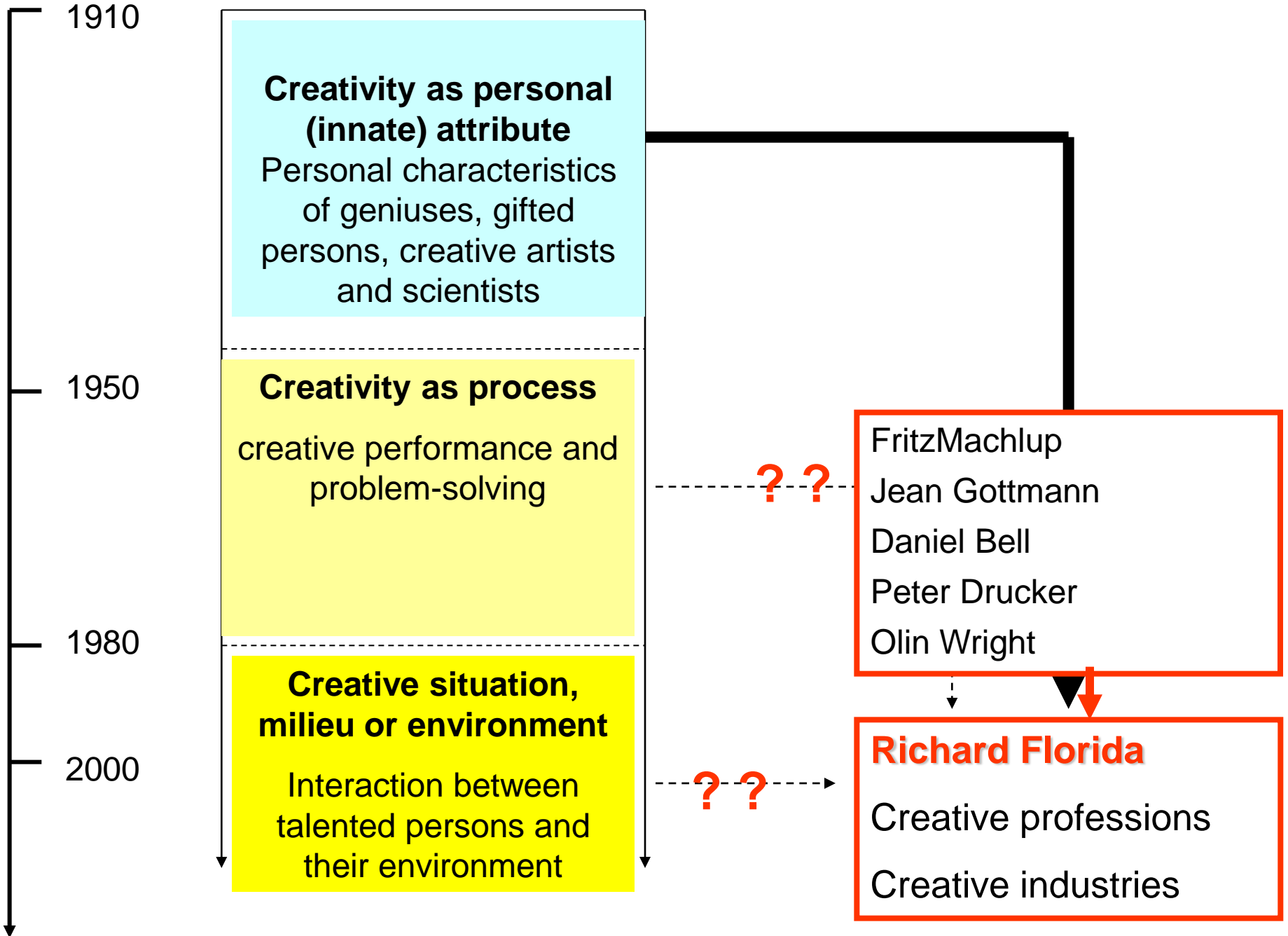
Richard Florida

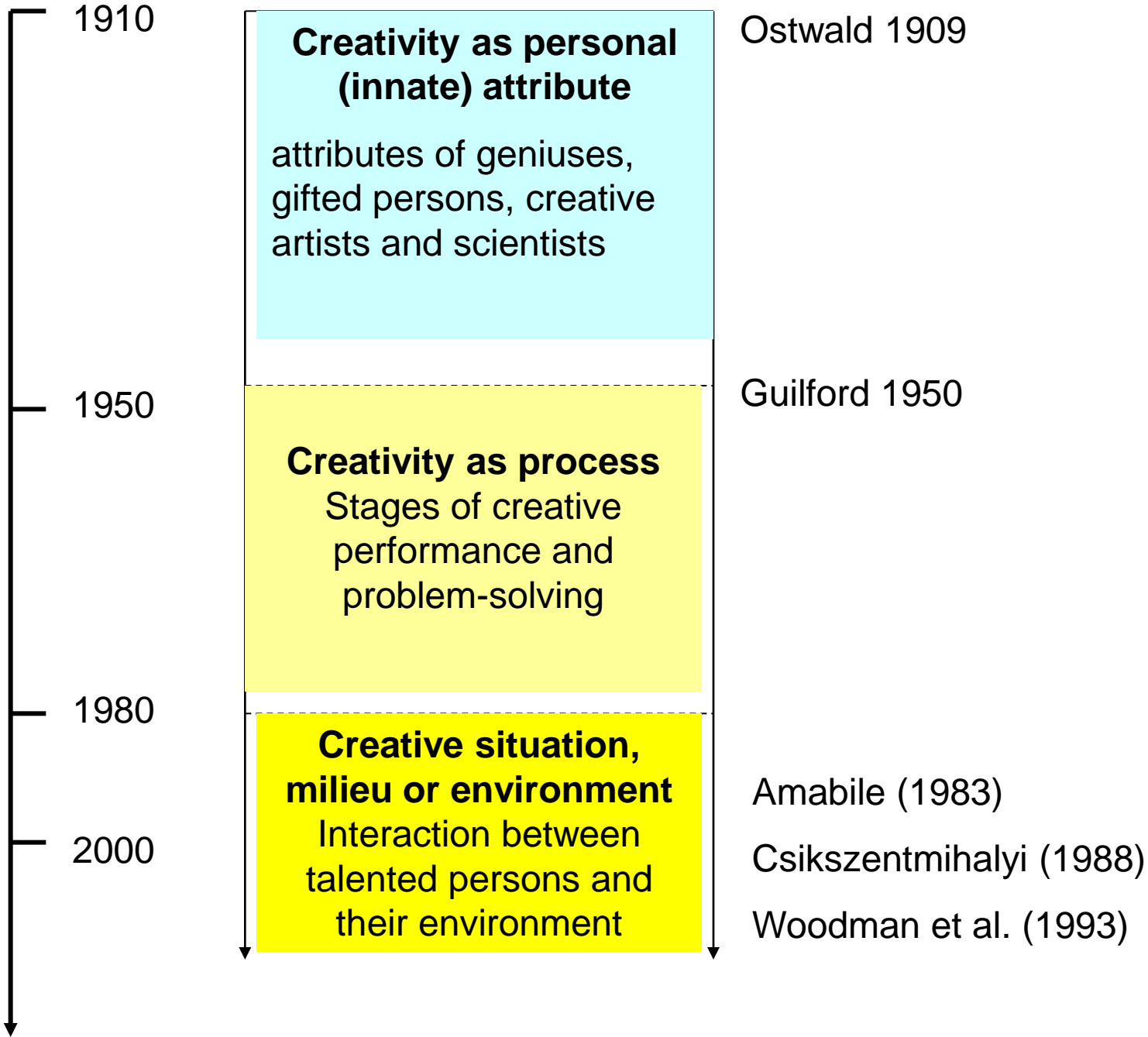
Creative professions

Creative industries

??

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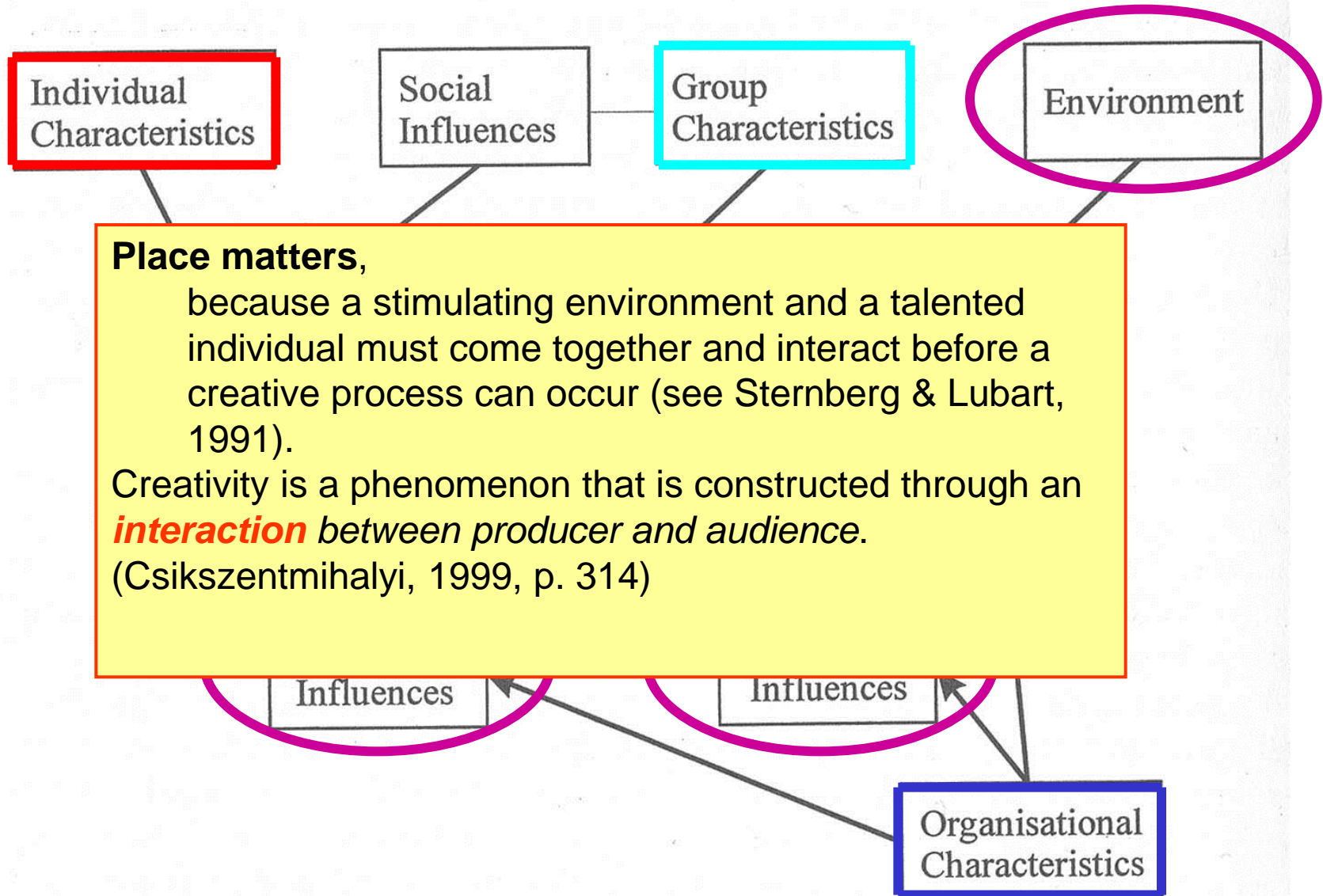


The turn to creative situations, environments and interactions

Csikszentmihalyi (1988, pp. 325–326)

- We cannot study creativity by isolating individuals and their works from the social and historical milieu in which their actions are carried out.
- This is because what we call creative is never the result of individual action alone; it is the product of three main shaping forces:
 - a set of social institutions, or ***field***, that selects from the variations produced by individuals those that are worth preserving;
 - a stable cultural ***domain*** that will preserve and transmit the selected new ideas or forms to the following generations; and finally t
 - the ***individual***, who brings about some change in the domain, a change that the field will consider to be creative.
- **Creativity is a phenomenon that results from interaction between these three systems.**

Factors contributing to Creativity



Definitions of Creativity

D'Agostino (1984, pp. 88–102)

- “true human creativity involves novelty, value, appropriateness to context, and unpredictability in terms of antecedent knowledge, available recipes, existing rules, and environmental stimuli”

Oldham and Cummings (1996, p. 608) define creative performance:

- “as products, ideas, or procedures that satisfy two conditions:
- (1) they are novel or original and
- (2) they are potentially relevant for, or useful to, an organization”.

Woodman, Sawyer, & Griffin (1993, p. 293) define creativity

- “as the generation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social system”.

Definitions of Creativity

Ford (1996, p. 1115)

- “creativity is a subjective judgment made by members of the field about the novelty and value of a product; it is not an inherent quality that can be measured independent of social-construction processes within a field. [Creativity is] a domain-specific, subjective judgment of the novelty and value of an outcome of a particular action”

Shalley, Gilson, & Blum (2000, p. 215) stated that

- “creativity involves the production, conceptualization, or development of novel and useful ideas, processes, or procedures by an individual or by a group of individuals working together.”

M. Boden (2004, p. 1):

- “***creativity is the ability to come up with ideas or artefacts that are new, surprising and valuable***”

Distinction between everyday problem-solving and outstanding achievements

- Many psychologists (e.g. Simonton 2000; Funke 2000, p. 284) have argued that creativity is an all-pervasive phenomenon of human nature. All people constantly need and apply creativity to solve their everyday problems.
- **M. Boden** (1994, pp. 76–77; 2004, p. 2) recommends drawing a line between psychological creativity and historical creativity.
 - **Psychological creativity** involves coming up with a surprising, valuable idea that is new to the person to whom it occurs, regardless of how many other people have had that idea before
 - **Historical creativity** means that no one else has had the idea or made the artefact before (as far as is known); it has arisen for the first time in human history.
- a distinction between everyday problem-solving and outstanding achievements is necessary in order to avoid misunderstandings

Richard Florida's concept of creative class

According to Florida (2004)

- the **creative class** consists of people
 - “who add economic value through their creativity. It thus includes a great many knowledge workers, symbolic analysts and professional and technical workers” (p. 68)
- Creative core:
 - Scientists, engineers, university professors, poets and novelists, artists, entertainers, actors designers and architects, non-fiction writers, editors, cultural figures, think-tank researchers, analysts and other opinion makers
- Creative professionals
 - Financial services, the legal and health care professions, and business management (p. 69)
- Bohemians
- „Some 38 million Americans, 30 percent of all employed people belong to this new class“ (Florida 2004, p. 8)

Why are the terms creative professions or creative industries regarded as inappropriate?

- If we accept the **concept of psychological creativity** and the assumption that anybody is creative in his or her daily problem-solving,
 - almost all professions are creative
 - then it makes more sense to distinguish the work force according to their educational attainment, professional skills or decision making power
- If we adopt the **concept of historical creativity**, then one must accept
 - that creativity can be neither predicted nor administered,
 - that members of a given profession are not invariably creative.
 - that a given profession has only a tiny proportion of historically creative people,
- If these propositions are accepted, then it makes no sense to label a whole industry or whole groups of professions as creative before evaluating their ideas and products.
- None of Florida's creative professions perpetually engages in creative processes and continuously invents and fabricates creative products.

Correlation

Attributes of persons
can be measured and
certified



Creativity as a result
can only be evaluated ex post

intelligence
educational attainment
professional skills
qualifications
occupational status
experience
problem solving capacities
etc.

Interaction
Creative process

Creative Persons

Creative Processes

Creative Products

Creative industries

Creative cities

Preconditions or input-variables

Evaluated results

Nobel Prize winners in Germany 1901 - 2004

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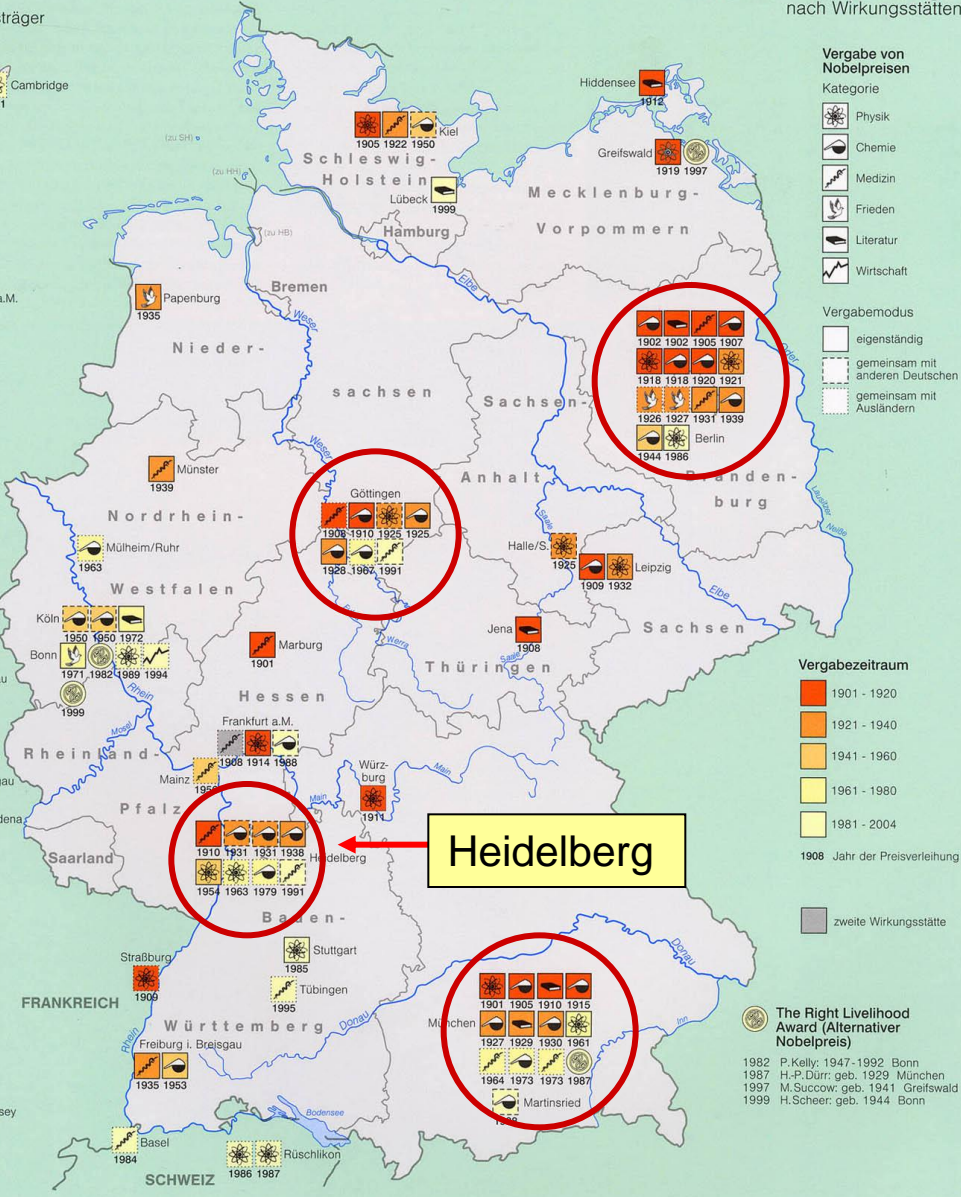
Wirkungsstätten deutscher Nobelpreisträger in den USA



- 1901 W.C.Röntgen: 1845-1923 * München
- E.A. von Behring: 1854-1917 / Marburg
- 1902 H.E. Fischer: 1852-1919 → Berlin
- C.M.T. Mommsen: 1817-1903 * Berlin
- 1905 P.E.A. von Lenard: 1862-1947 * Kiel
- J.F.W.A. von Baeyer: 1835-1917 → München
- K.Koch: 1843-1910 → Berlin
- E. Buchner: 1860-1917 → Berlin
- 1907 P. Ehrlich: 1854-1915 / Göttingen/Frankfurt a.M.
- R.C. Eucken: 1846-1926 * Jena
- 1909 C.F. Braun: 1850-1918 * Straßburg
- W. Ostwald: 1853-1932 → Leipzig
- O. Wallach: 1847-1931 → Göttingen
- A. Kossel: 1853-1927 * Heidelberg
- P.J.L. Heuse: 1830-1914 * München
- 1911 W. Wien: 1864-1928 * Würzburg
- 1912 G.J. R. Hauptmann: 1862-1946 → Hindensee
- 1914 M. von Laue: 1879-1960 * Frankfurt a.M.
- 1915 R.M. Willstätter: 1872-1942 * München
- 1918 M.K.E.L. Planck: 1858-1947 * Berlin
- F. Haber: 1868-1934 → Berlin
- J. Stark: 1874-1957 * Greifswald
- 1919 W.H. Nernst: 1864-1941 → Berlin
- 1920 A. Einstein: 1879-1955 * Berlin
- 1922 O.F. Meyerhof: 1884-1951 / Kiel
- J. Franck: 1882-1964 * Göttingen
- 1925 G.L. Hertz: 1867-1975 * Halle/S.
- R.A. Zsigmondy: 1865-1929 → Göttingen
- 1926 G. Stresemann: 1878-1929 → Berlin
- 1927 H.O. Wieland: 1877-1957 → München
- L. Quircke: 1858-1941 → Berlin
- 1928 A.O.R. Wirtz: 1876-1939 → Göttingen
- 1929 T. Mann: 1875-1955 * München
- 1930 H. Fischer: 1881-1945 * München
- 1931 O. Bosch: 1874-1940 → Heidelberg
- F. Bergius: 1884-1949 → Heidelberg
- O.H. Warburg: 1883-1970 → Berlin
- 1932 W.K. Heisenberg: 1901-1976 * Leipzig
- H. Spemann: 1869-1941 → Freiburg i. Breisgau
- 1935 C. von Ossietzky: 1889-1938 * Papenburg
- 1938 R. Kuhn: 1900-1967 → Heidelberg
- 1939 A.F. J. Butenandt: 1903-1995 → Berlin
- G. Domagk: 1895-1964 / Münster
- 1944 O. Hahn: 1879-1968 * Berlin
- 1950 O.P.H. Diels: 1876-1954 * Köln
- H. Alder: 1902-1985 * Köln
- 1953 H. Staudinger: 1881-1965 → Freiburg i. Breisgau
- 1954 W. Bothe: 1891-1957 → Heidelberg
- 1956 W. Forssmann: 1904-1979 / Mainz
- 1961 R.L. Mössbauer: geb. 1929 * München, Pasadena
- 1963 J.H.D. Jensen: 1907-1973 * Heidelberg
- K. Ziegler: 1898-1963 * Mülheim/Ruhr
- 1964 F. Lynen: 1911-1979 → München
- 1967 M. Eigen: geb. 1927 → Göttingen
- 1971 W. Brandt: 1913-1992 → Bonn
- 1972 H. Böll: 1917-1985 * Köln
- 1973 E.O. Fischer: geb. 1918 → München
- K.von Frisch: 1886-1982 → München
- 1979 G. Wittig: 1897-1987 → Heidelberg
- 1984 G.J.F. Köhler: 1946-1995 / Basel
- 1985 K.von Klitzing: geb. 1943 → Stuttgart
- 1986 E. Ruska: 1906-1988 * Berlin
- G. Binnig: geb. 1947 * Rüsselikon
- 1987 J.G. Bednorz: geb. 1950 * Rüsselikon
- 1988 J. Deisenhofer: geb. 1943 → Dallas
- R. Huber: geb. 1937 → Martinsried
- H. Michel: geb. 1948 → Frankfurt a.M.
- 1989 W. Paul: 1913-1993 * Bonn
- 1991 E. Neher: geb. 1944 → Göttingen
- B. Sakmann: geb. 1942 → Heidelberg
- 1994 R. Seltzer: geb. 1930 → Bonn
- 1995 C. Nüsslein-Volhard: geb. 1942 → Tübingen
- 1998 H.L. Störmer: geb. 1949 * New York, New Jersey
- 1999 G. Grass: geb. 1927 * Lübeck
- 2000 H. Kroemer: geb. 1928 * Santa Barbara
- 2001 W. Ketterle: geb. 1957 * Cambridge

* von Ossietzky war zur Zeit der Preisverleihung im KZ Esterwegen inhaftiert

Deutsche Nobelpreisträger nach Wirkungsstätten



Hotspots of brain power

- Generation of creative ideas
- Evaluation of creative ideas

Creative Environment

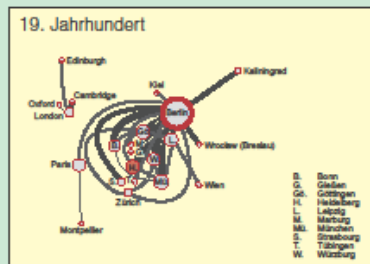
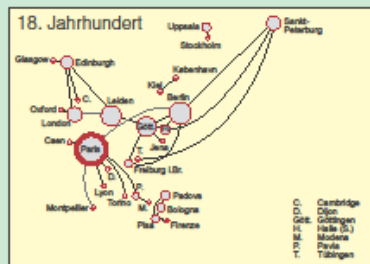
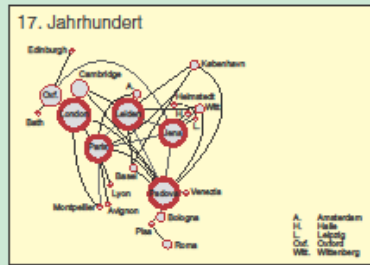
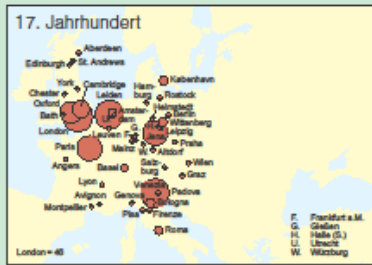
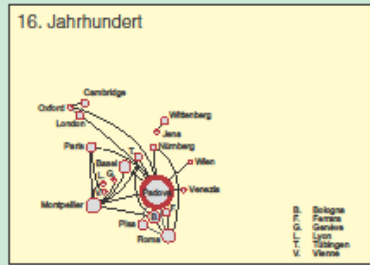
is not a predictor but a potential that has to be used and activated by talented agents

Source: Nationalatlas der Bundesrepublik Deutschland, vol. 6 (2005)

• Wirkungsorte führender Wissenschaftler vom 16. bis zum 19. Jahrhundert



• Netzwerkverbindungen führender Wissenschaftler vom 16. bis zum 19. Jahrhundert



Dargestellt sind Orte, an denen im jeweiligen Jahrhundert mindestens zwei - im 19. Jh. mindestens sieben - berühmte Naturwissenschaftler (zumeist) tätig waren.

Maximum (vgl. Angabe in Karte)
mind. 2 (7)

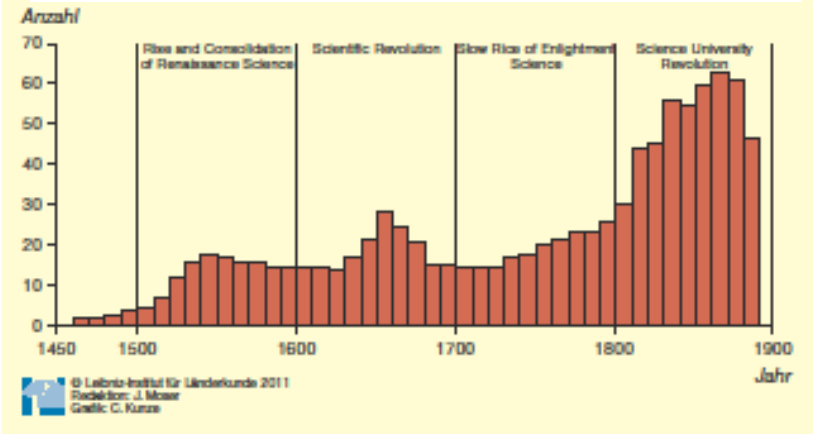
Topologisches Schema

Konnektivität (siehe Kasten)

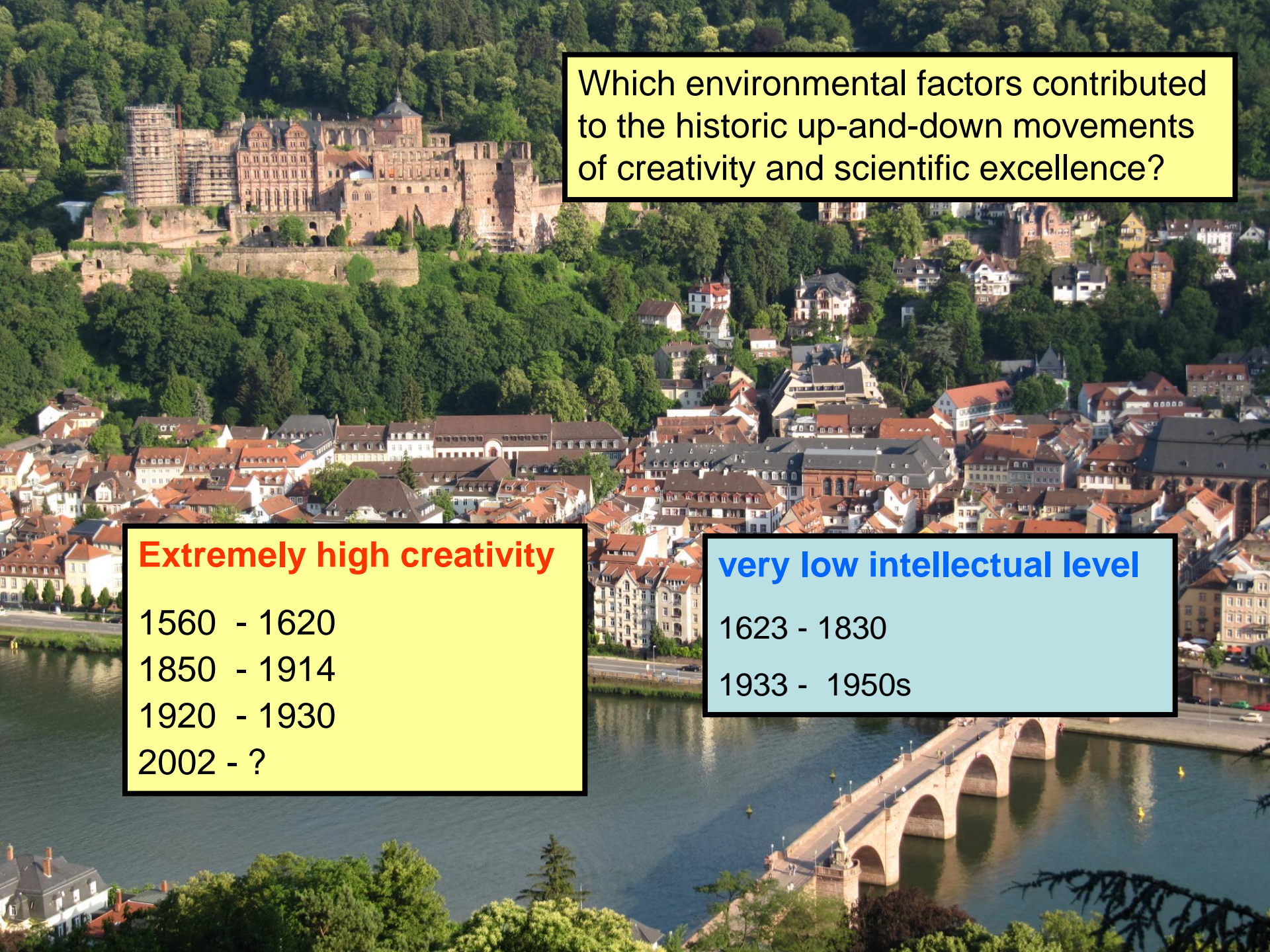
Legend: 2 - 3, 4 - 5, 6, 7 - 9, 10 - 13, 14 - 18

Workplaces and connectivity of leading European scientists 16th – 19th century

Eminent European scientists according to Gascoigne (1992)



Source: Hoyler & Taylor 2011
forthcoming



Which environmental factors contributed to the historic up-and-down movements of creativity and scientific excellence?

Extremely high creativity

1560 - 1620
1850 - 1914
1920 - 1930
2002 - ?

very low intellectual level

1623 - 1830
1933 - 1950s

Creative environment

- ➔ The **environment** is an important constituent of creativity
- ➔ An environment is created by actors and at the same time influences actors
- ➔ Creative individuals are raised, trained and embedded in particular milieus;
- ➔ Creative individuals are attracted by certain places
 - where they can develop their abilities and ideas,
 - where they have the opportunities to interact with other knowledgeable agents,
 - where they receive the necessary support, the desirable inspirations and challenges
 - where they dispose of the necessary resources
- ➔ Other places and regions constantly lose most of their talented young generation, intellectuals, scientists, and artists through persistent brain drain.
- ➔ Creative persons are likely to be **more sensitive to environmental stimuli** than are less creative individuals
- ➔ **Place matters,**
 - because a stimulating environment and a talented individual must come together and interact before a creative process can occur (see Sternberg & Lubart, 1991)

The role of environments (milieus)

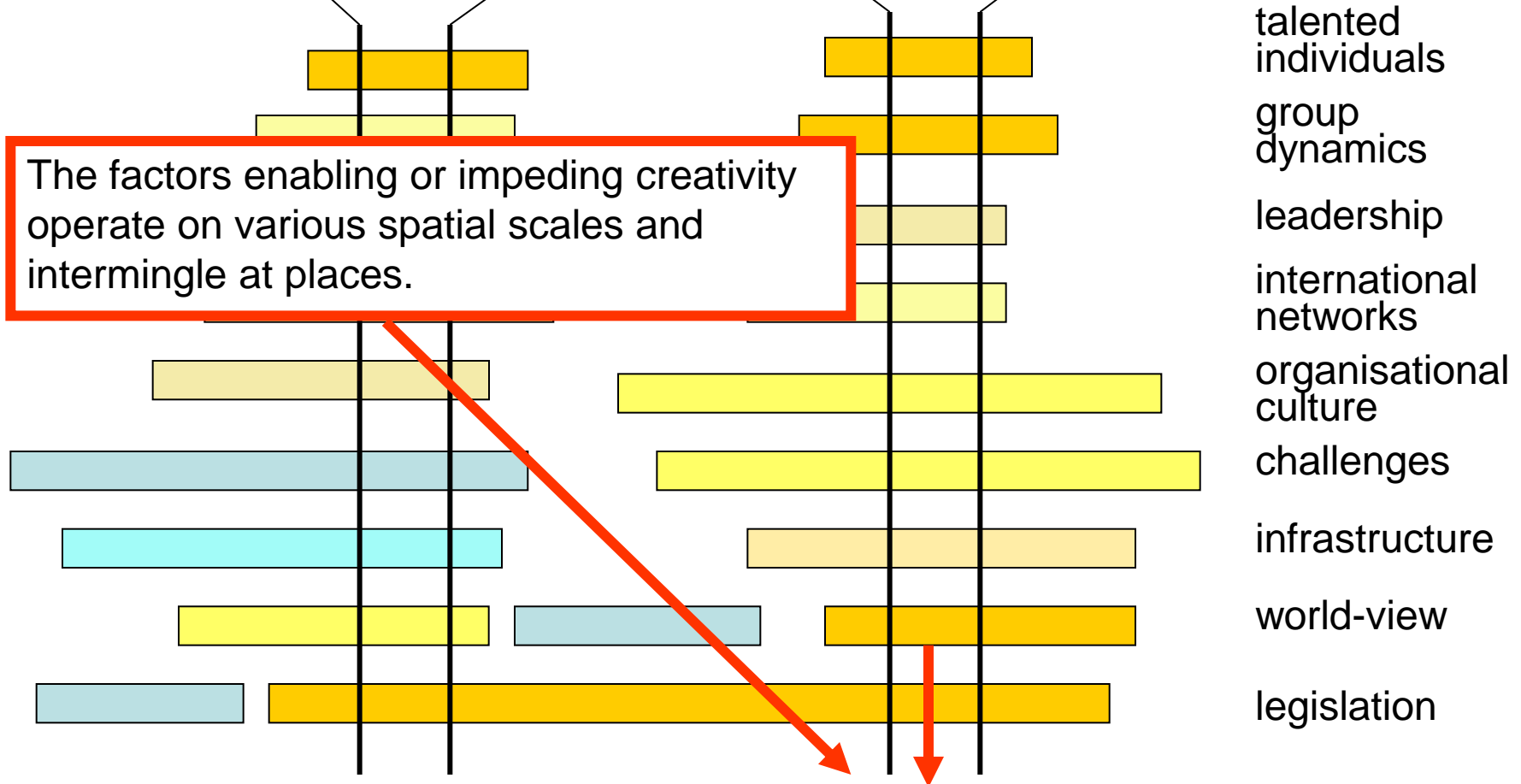
A milieu or environment

- is not a container that includes individuals, institutions, and infrastructure.
- is not produced solely by a co-presence of particular constituents. Much more decisive are their interrelations and mutual modifications.
- is more than a stage on which actions take place, however it is not an active venue that shapes the practices of knowledge acquisition and circulation
- is not a predictor or factor of influence in a correlational sense, but a potential that will be utilized by some agents and disregarded by others
- The chances and stimuli of an environment are differently perceived by individuals with different cognitive skills and knowledge.
- The potentiality of a place must be activated through human communication and interaction.
- The factors enabling or impeding creativity operate on various spatial scales, but finally they take effect at places

Environment Place B

Environment Place A

The factors enabling or impeding creativity operate on various spatial scales and intermingle at places.



 positive impact
 negative impact

Locally based macrophenomenon called environment, milieu, context

Thank you for your attention