

Three Types of Breakthrough Innovations for Creating Future Industries

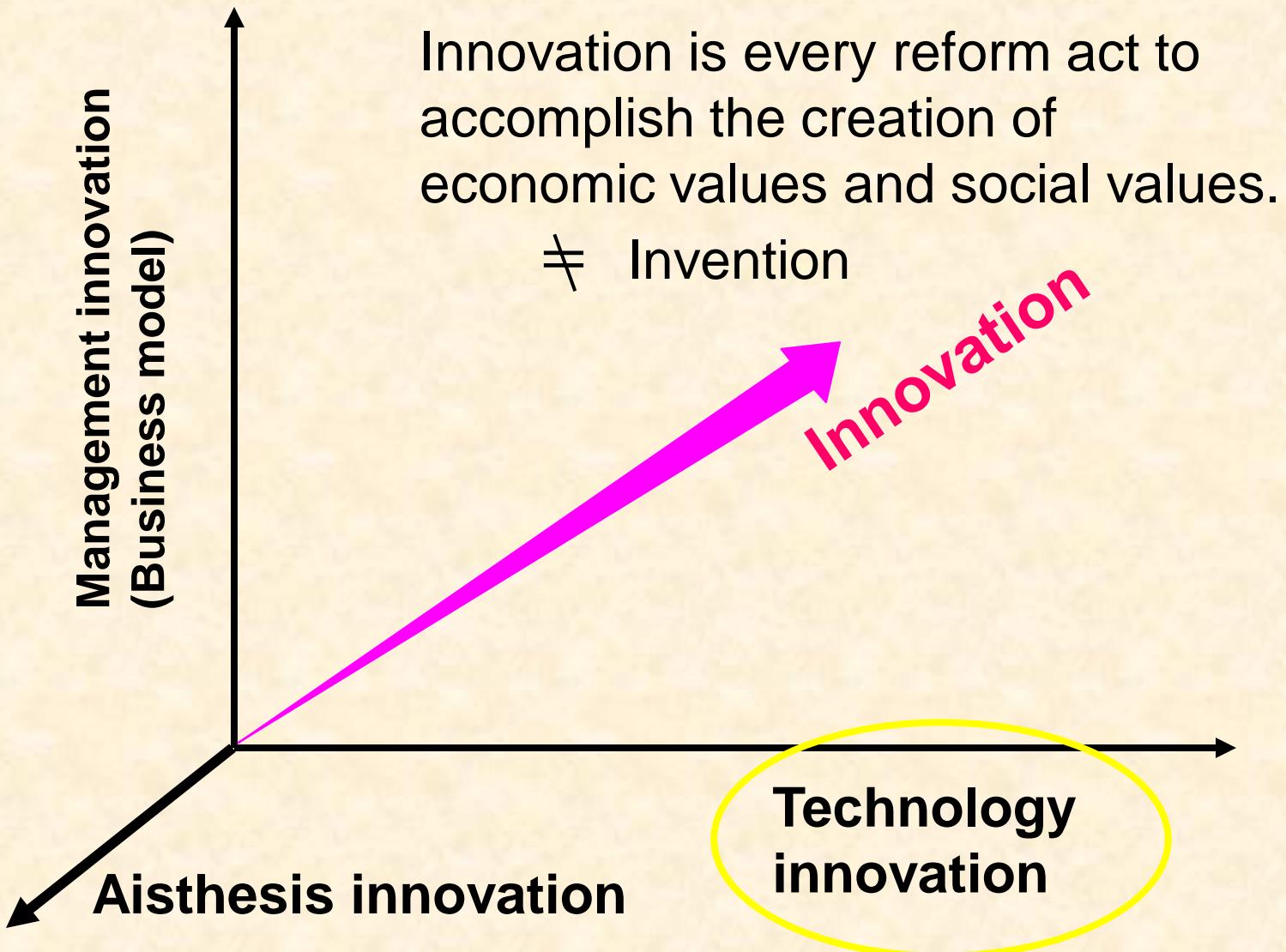
An aerial photograph of Mount Fuji, showing its snow-capped peak and the surrounding green hills and agricultural fields. The sea is visible on the left.

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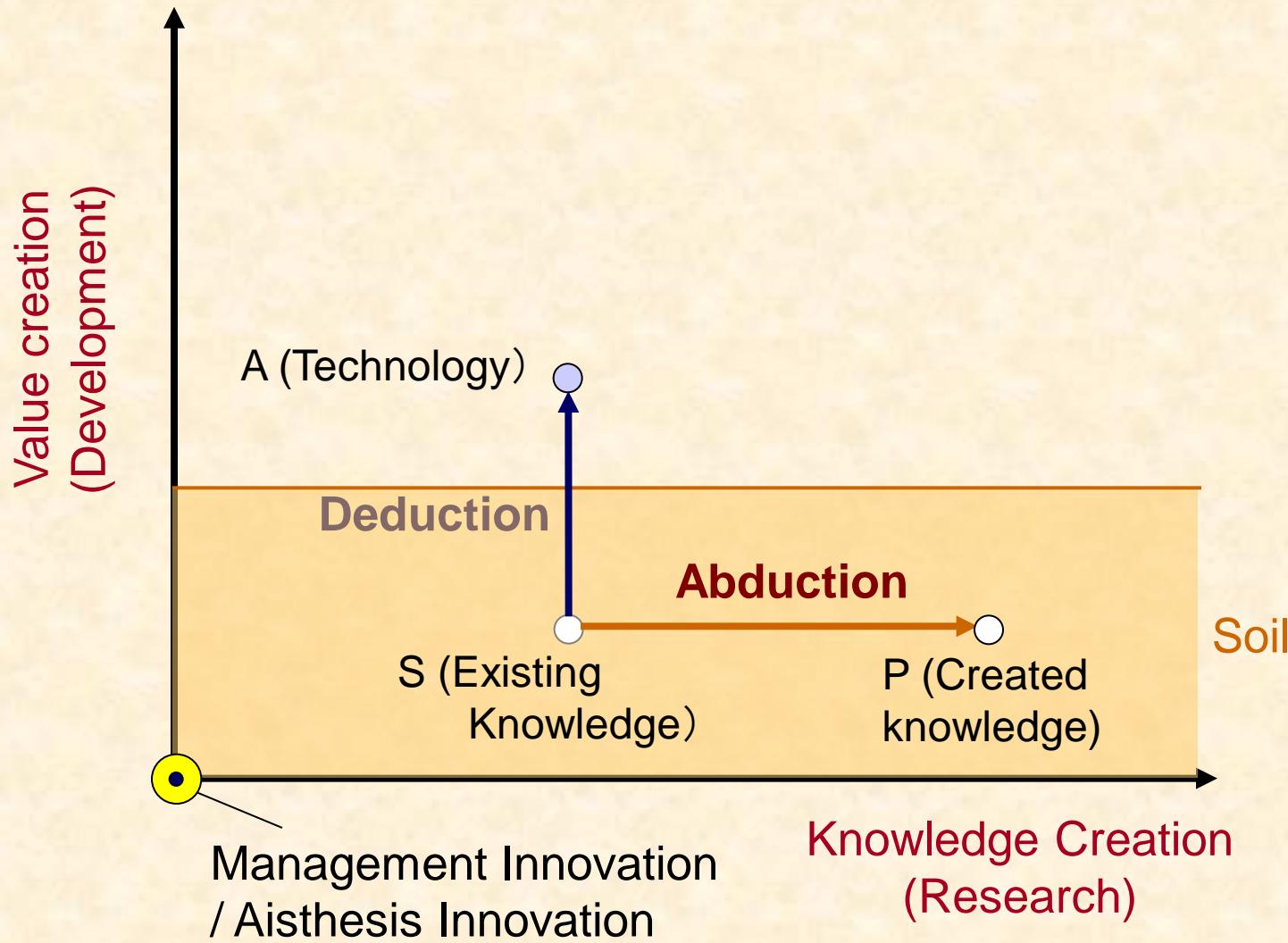
**5th International Symposium on Advanced
Plasma Science and its Applications for
Nitrides and Nanomaterials**

January 30, 2013 Nagoya University

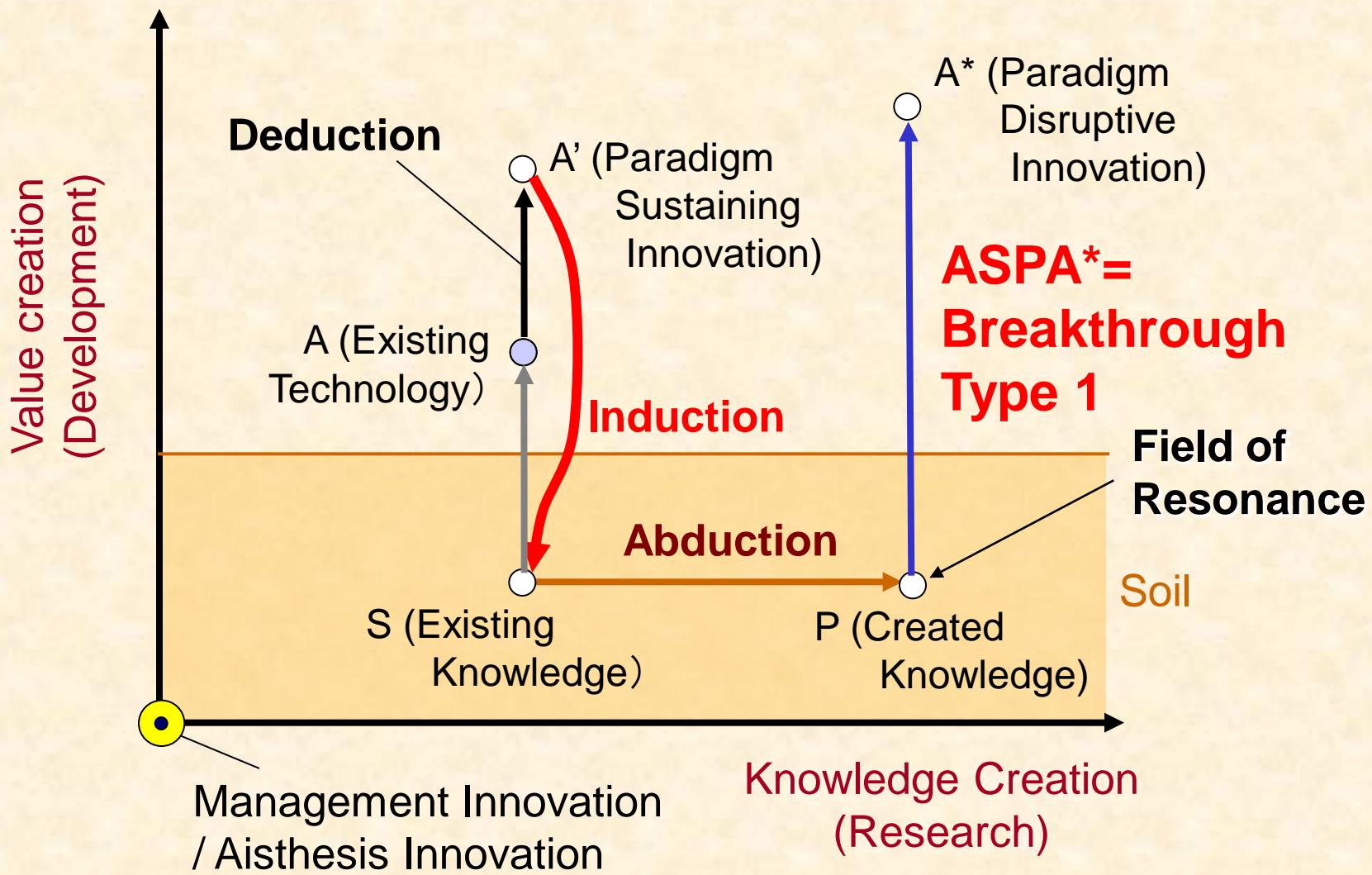
What is Innovation ?



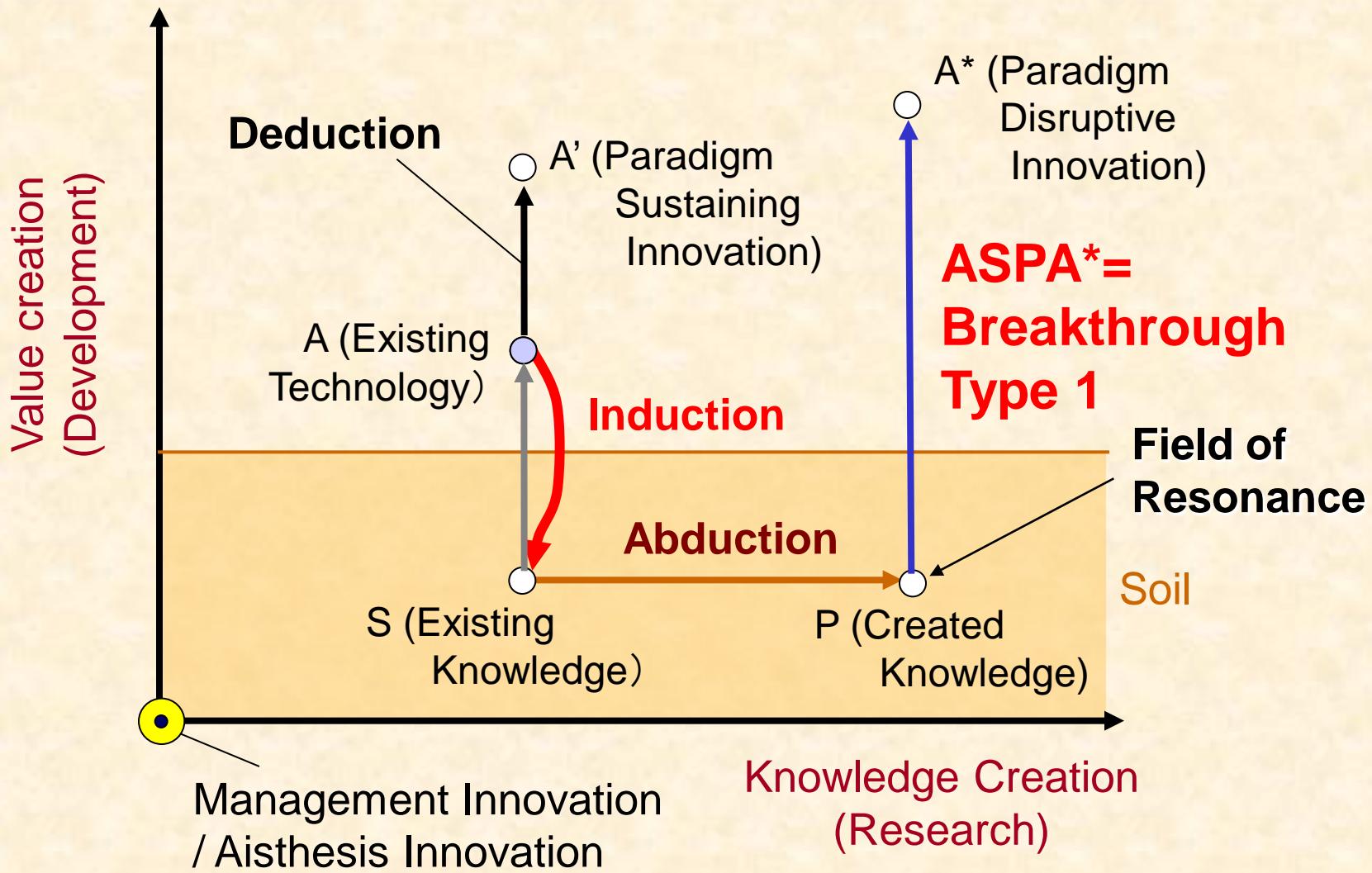
New Concept: Innovation Diagram !!!



Breakthrough Type 1

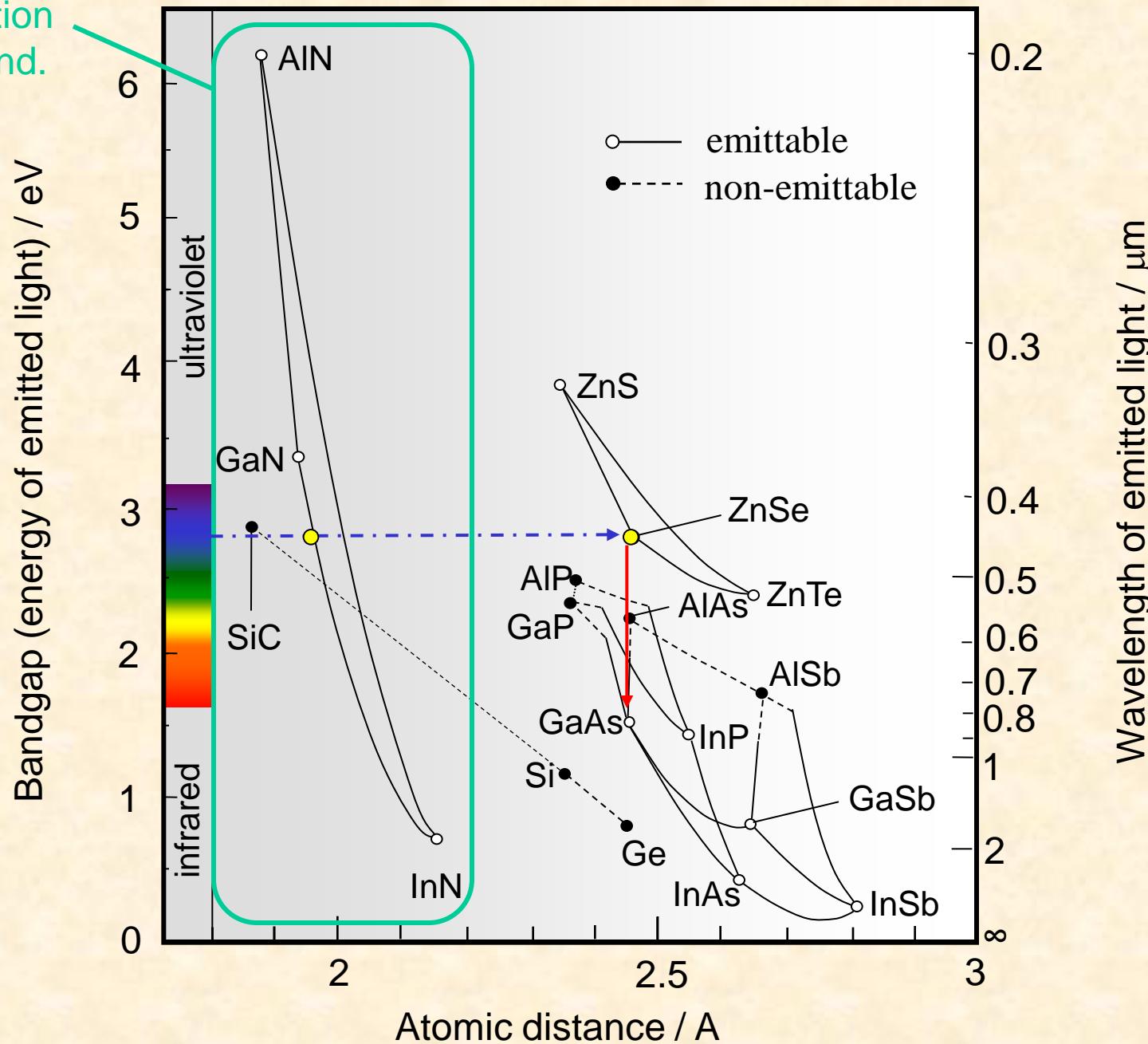


Breakthrough Type 1

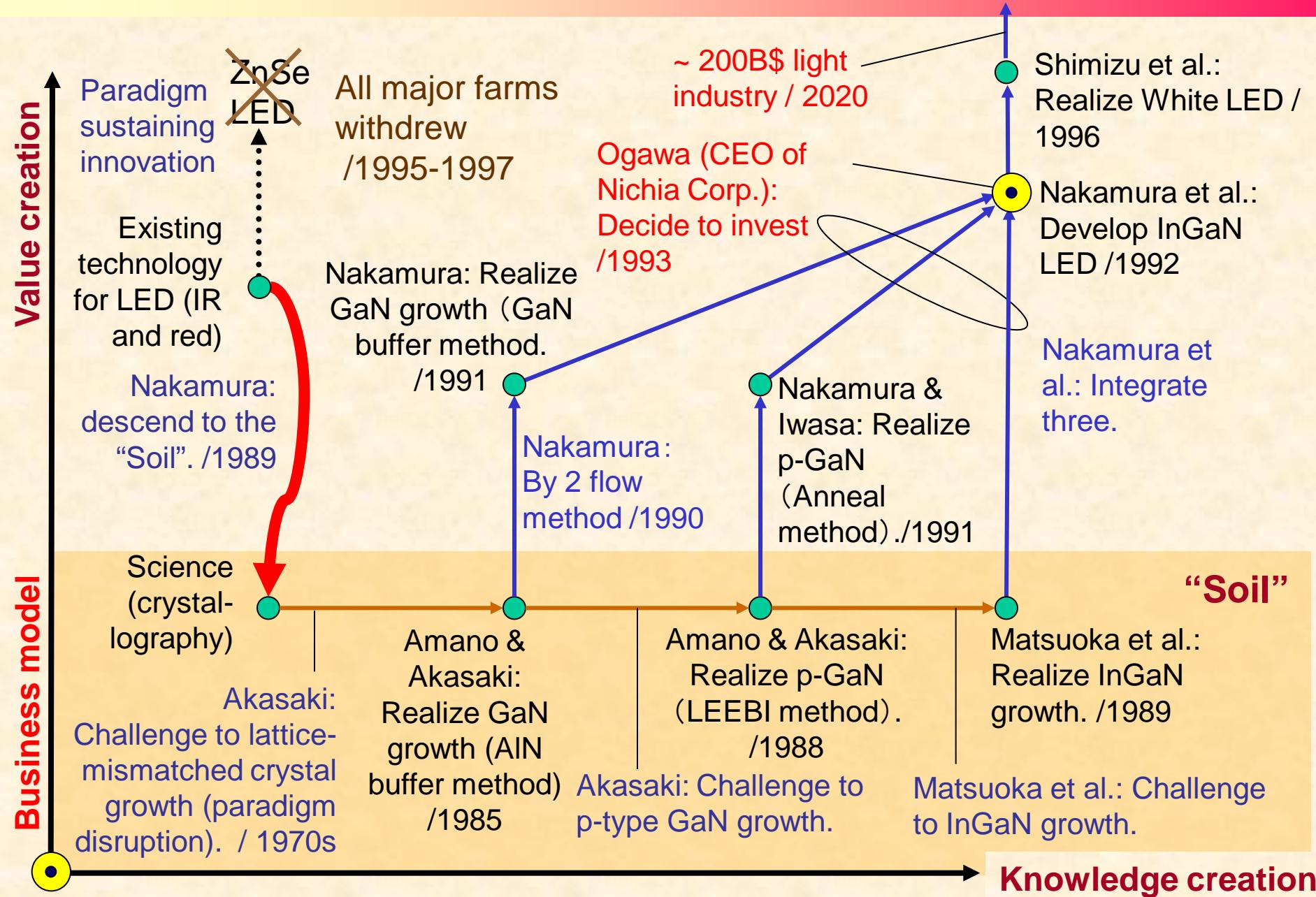


New
generation
semicond.

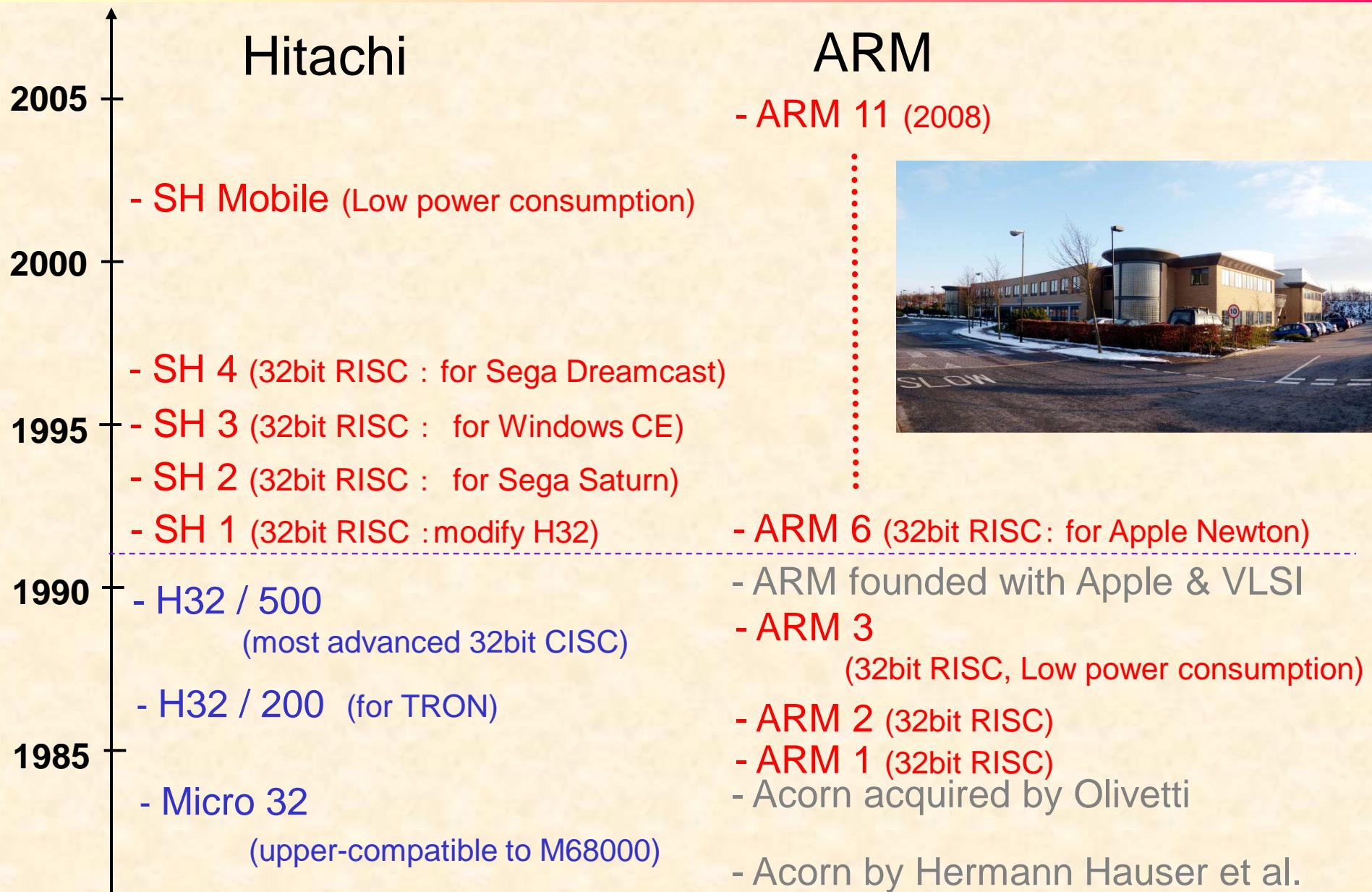
Bandgap and atomic distance for semicond.



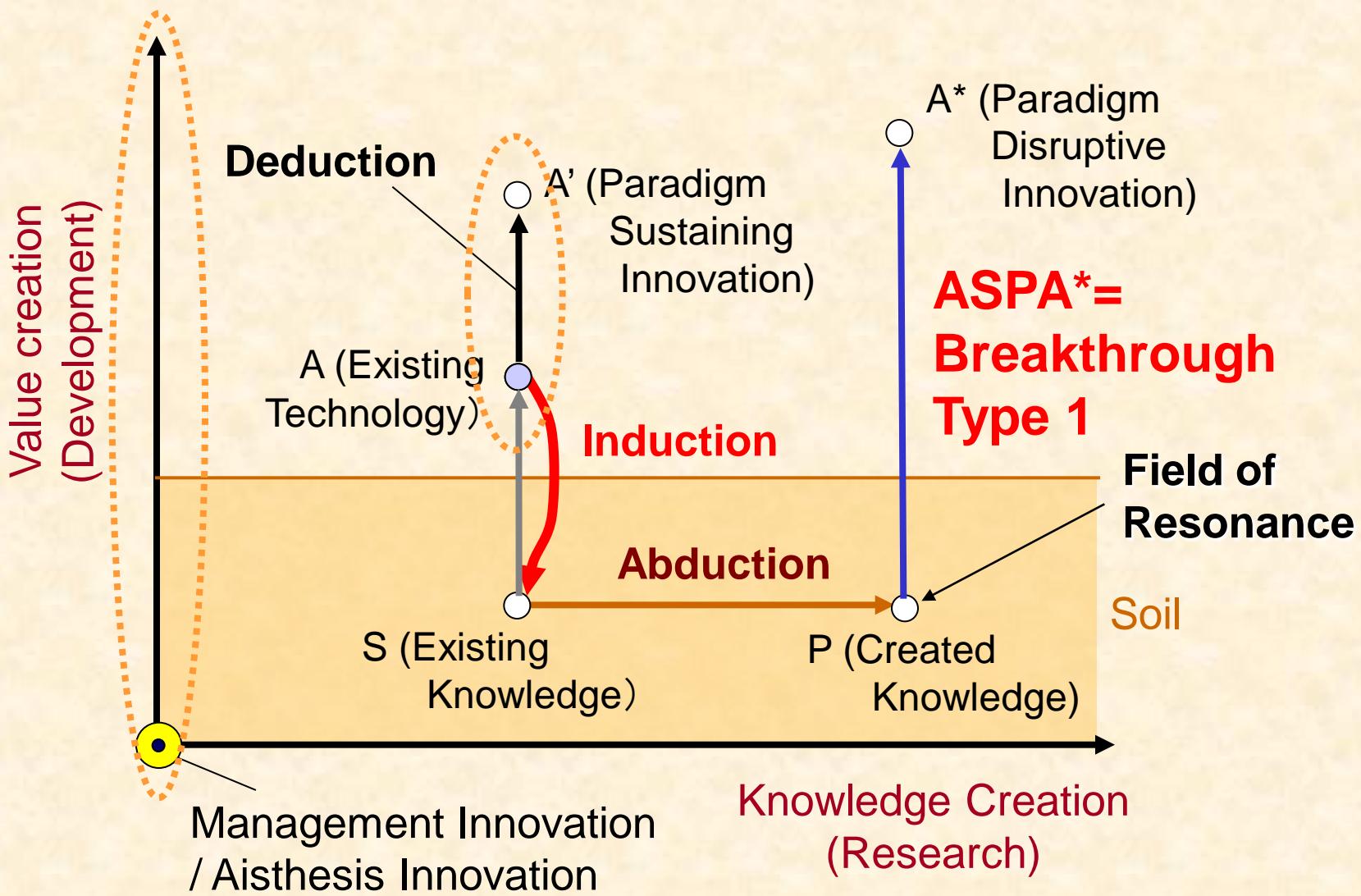
Innovation diagram: Blue LED



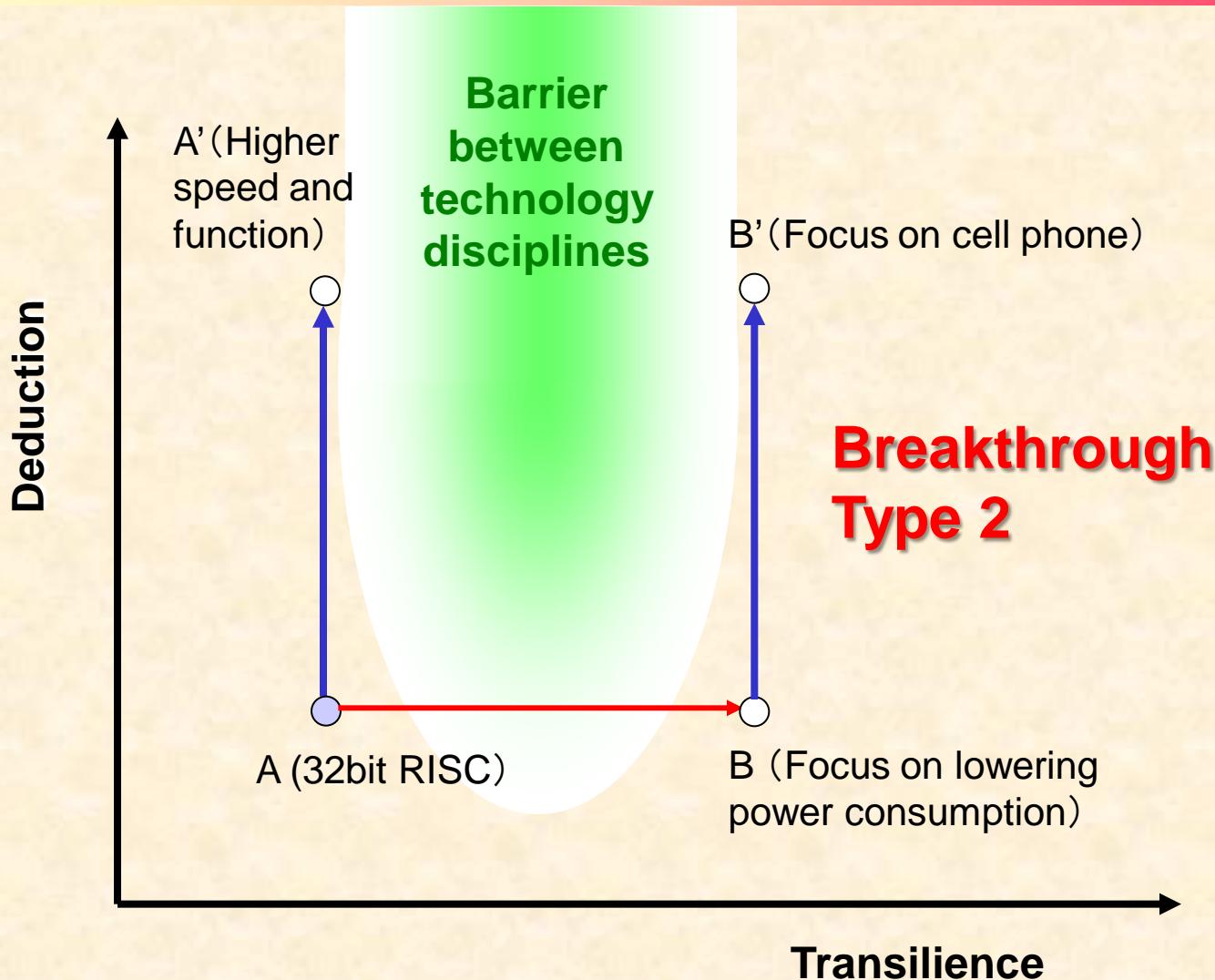
History of MPU by Hitachi and ARM



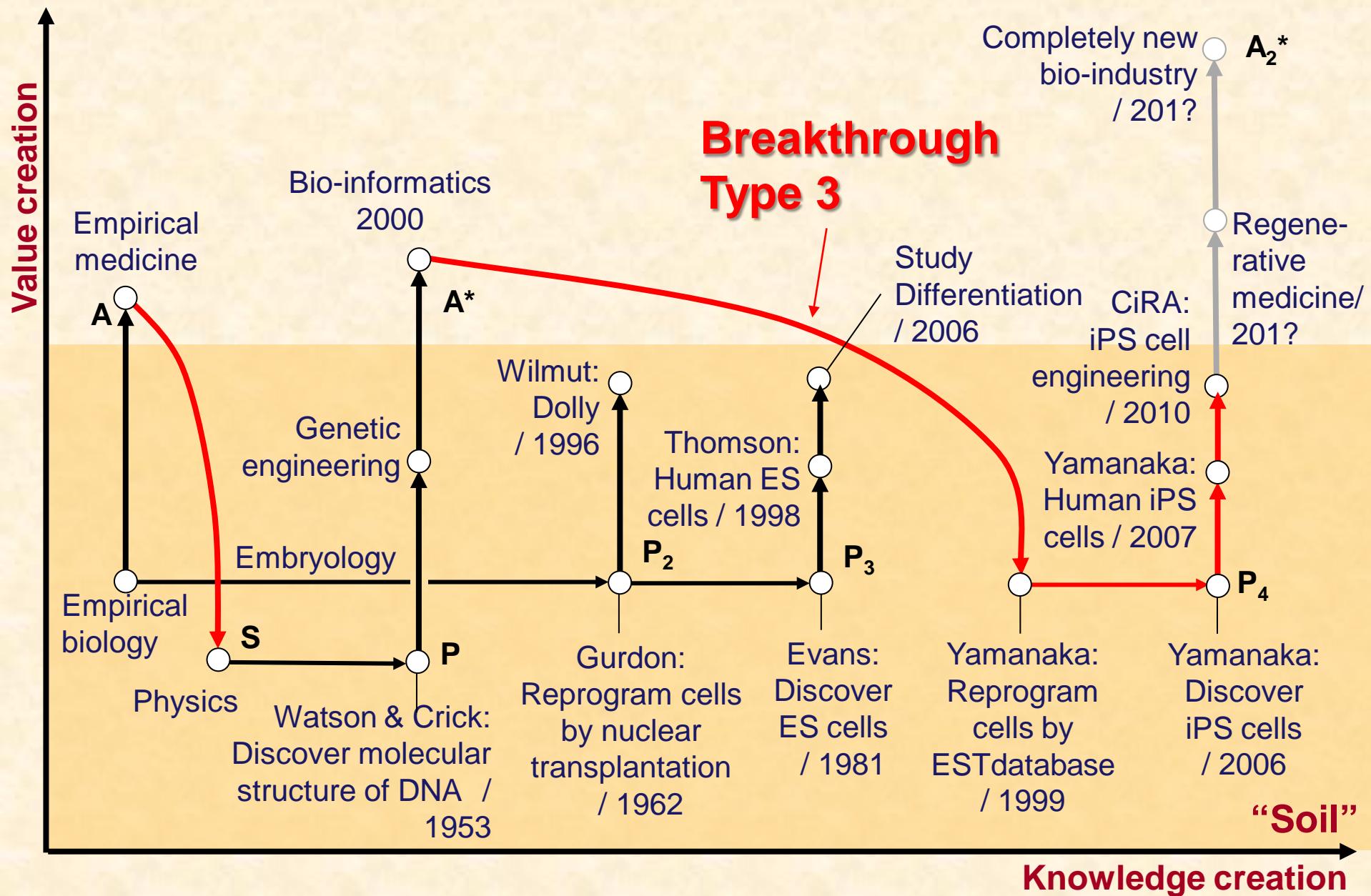
Extension of Innovation Diagram



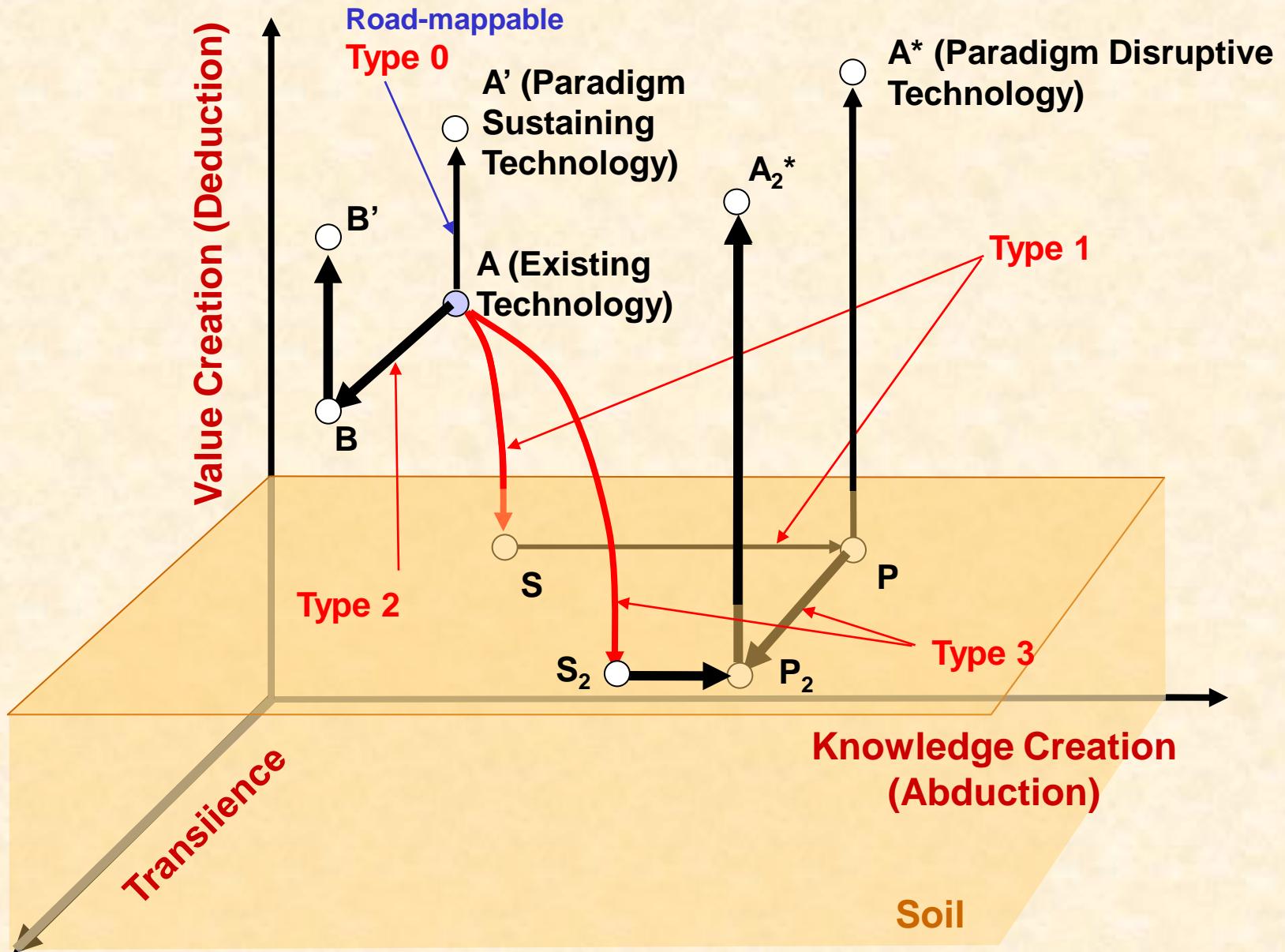
Breakthrough Type 2



Innovation diagram: iPS cells



Breakthrough Type 3



Conclusion

1. When you reach a dead-end by trivial Type 0 (**Deduction**), descend to the soil (**Induction**). Not until you descend into **the soil**, you can direct toward new paradigms by **Abduction**.
→ **Breakthrough Type 1** (=Paradigm disruptive innovation)

To accomplish Type 1, you must form “**Fields of Resonance**”, respecting the difference and diversity of each person’s goal of life.

2. Vision for future cannot be conceived by **Deduction** from the existing technology. **Transilience** toward the **aisthesis** innovation must be essential.
→ **Breakthrough Type 2** (=Christensen’s disruptive innovation)
3. Even in **the soil**, you should always search possible ways of **Transilience** and transgress the border of discipline during **Abduction**.
→ **Breakthrough Type 3**

Future can only be created from the existing soil.