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Short Elucidating Note 108: Using the conjunctural causality truth table to frame step by step the possible evolution routes for deep to deep Pareto optimality paradigm flips and flip-backs: The case of the deep environmental market, horizontal evolution, vertical evolution, and the Thomas Kuhn's curse.

By

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Abstract

If we know the model structure of perfect paradigms we can create the conjunctural state under which each of them operates, creating in the process model structure and conjunctural state truth tables. Knowing both the model structure and the conjunctural state we can state the structure of deep paradigm flips and deep paradigm flip-backs taking place at the same level of analysis, using both model variability theory and conjunctural state variability theory. This paper is about framing the model and the conjunctural state flip and flip back for the deep environmental paradigm to expand that way pareto optimality thinking beyond traditional thinking in terms of flip and flip-back theory to capture the idea of horizontal deep environmental paradigm evolution, where the same level of externality responsibility is kept where the move is horizontal, but the nature of the pollution production problem associated with the way new deep markets work changes, and where the knowledge base of the previous paradigm is left behind during the flip or it is recaptured during the paradigm flip-back. Then how the deep environmentalism paradigm evolves vertically is pointed out when as when under binding socio-economic externality pressures it shifts upwards to save its core values leaving the previous knowledge base behind as it acquires higher externality responsibility levels.

Key words

Conjunctural state, Model structure, Deep socialism, Deep environmentalism, Deep capitalism, Deep economy, Yellow sustainability, True sustainability, deep socialism pareto optimality state, deep environmentalism market pareto optimality state, Deep capitalism Pareto optimality state, deep economy pareto optimality state, yellow sustainability market pareto optimality state, true sustainability market pareto optimality state

The model structure and the conjunctural state structure of each all markets when you have a system with social (A), economic (B), and environmental (C) components so that $M = A + B + C$

The truth table showing the paradigm structure and conjunctural state of each of the 8 paradigm possible in a system where there are social components(A), economic components (B) and environmental components (C) has been recently shared (Muñoz 2025a) as in similar fashion as shown in Table A below, where a capital letter means that component is present in dominant or active form (e.g. A = 1 = present in dominant form; and where a lower case letters means that the component is absent in dominant or active form (eg. a = 0 = absent in dominant form:

TABLE A PARADIGM AND CONJUNTURAL STATE TRUTH TABLE

Paradigm structure	Conjunctural state
M1 = abc = the fully unsustainable market	= (0,0,0)
M2 = Abc = the deep socialism market	= (1,0,0)
M3 = aBc = The deep economy market	= (0,1,0)
M4 = abC = The deep environmental market	= (0,0,1)
M5 = ABc = The red market	= (1,1,0)

M6 = aBC = The green market = (0,1,1)

M7 = AbC = The socio-environmental market = (1,0,1)

M8 = ABC = Yellow sustainability market = (1,1,1)

The possible flip and flip back routes for the deep paradigm evolution horizontally

All deep markets have two externality problems, the deep socialism market has an economic externality problem (bc), the deep environmental market has a socio-economic externality problem (ab), and deep capitalism/deep economy market has a socio-environmental externality problem (ac); and hence, all of them have two different horizontal flip routes and two different horizontal flip back routes, and these paradigm flip and flip back routes linked to losing the core dominant paradigm value of responsibility in the flip process or flip-back process are highlighted with yellow in Table B below:

TABLE B PARADIGM AND CONJUNTURAL STATE TRUTH TABLE

Paradigm structure	Conjunctural state
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M1 = abc = the fully unsustainable market	= (0,0,0)
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M2 = Abc = the deep socialism market	= (1,0,0)
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M3 = aBc = The deep economy market	= (0,1,0)
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M4 = abC = The deep environmental market = (0,0,1)

M5 = ABc = The red market = (1,1,0)

M6 = aBC = The green market = (0,1,1)

M7 = AbC = The socio-environmental market = (1,0,1)

M8 = ABC = Yellow sustainability market = (1,1,1)

Notice that the yellow sustainability paradigm M8 is highlighted with color green in Table B above to be used later to point out that as since all deep markets are delinked from yellow sustainability thinking, including the deep socialism paradigm; and therefore, in the very long term we should expected to see them tending towards system collapse as the externality production problem tends towards the accumulation of worsening negative conditions.

Expanding Pareto optimality thinking outside the traditional market box through deep paradigm flips and flip-back theory

We can see based on the discussion above that if we know the model structure of perfect paradigms we can create the conjunctural state under which each of them operates, creating in the process model structure and conjunctural state truth tables. Knowing both the model structure and the conjunctural state deep paradigms such as the deep socialism paradigm, the deep environmentalism paradigm and the deep capitalism/deep economy paradigm we can state the structure of deep paradigm flips and deep paradigm flip-backs taking place at the same level of analysis or horizontally given a paradigm to start with, using both model component variability theory as flips and flip-backs and conjunctural state variability theory as conjunctural state flips and conjunctural state flip-backs, going this way beyond traditional pareto optimality thinking. This paper is about framing the model and the conjunctural state flip and flip back for the deep environmentalism paradigm to expand that way pareto optimality thinking beyond traditional thinking in terms of flip and flip-back theory to capture the idea of horizontal deep environmental paradigm evolution, where the same level of externality responsibility is kept, but the nature of the pollution production problem associated with the way new deep markets work

changes, and where the knowledge base and core values of the previous paradigm are left behind during the flip or they are recaptured during the paradigm flip-back.

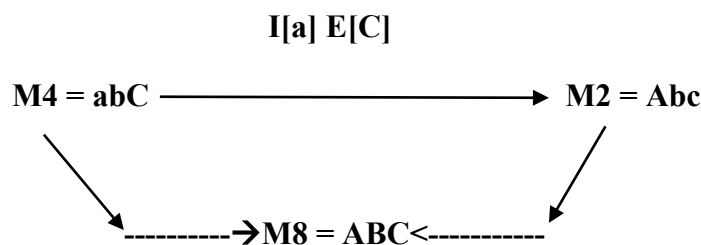
The case of deep environmentalism flips and flip backs in terms of model component variability

a) The deep environmentalism model flip route to other deep paradigms

i) The case of the flipping towards the deep socialism paradigm under yellow sustainability gaps

1) Analytically

The idea of the flip from deep environmentalism to deep socialism under yellow sustainability gaps can be stated analytically as follows:



The top part of the loop above indicates that when deep environmentalism (M4) internalizes social concerns I[a] and externalizes environmental concerns E[C] it flips and takes the form of a deep socialism (M2). The lower part indicates that both the deep environmentalism model M4 and the deep socialism model M2 are delinked from yellow sustainability M8 as indicated by the broken arrow since both of them have yellow sustainability gaps: deep environmentalism has socio-economic yellow sustainability gaps (ab) and deep socialism has eco-economic yellow sustainability gap(bc).

2) Graphically

The flip from the deep environmentalism model M4 to the deep socialism model M2 can be summarized graphically as shown in Figure 1 below:

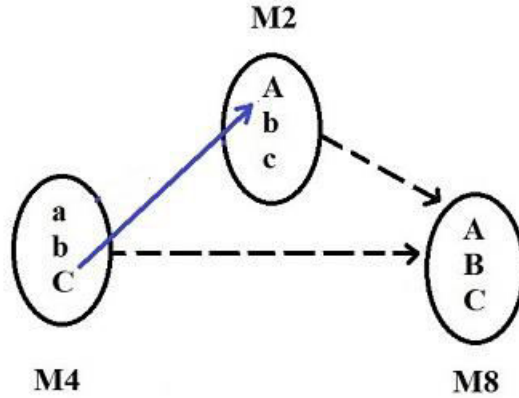


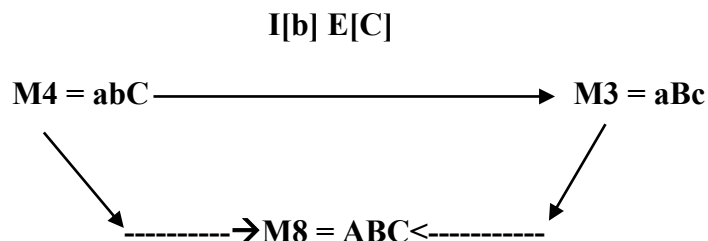
Figure 1 The flip from deep environmentalism (M4) to deep socialism (M2)

Figure 1 above shows a flip from an environment first model M4 to a society first model M2 as indicated by the blue arrow, a horizontal shift from an independent environmental Pareto optimality world to an independent social Pareto optimality world as it is a move from a one component dominant paradigm to another one component dominant paradigm. Figure 1 above also shows that both M4 and M2 are disconnected from yellow sustainability as indicated by the broken arrows from M4 and M2 to M8. Notice that when we flip from an environment first model to a society first model we are trading environmental responsibility for social responsibility. The idea of core responsibility trading when during paradigm flips and flip backs has been shared before as when red socialism countries traded economic responsibility for social responsibility when they flipped way from capitalism and then they traded back social responsibility for economic responsibility when red socialism fell in 1991 (Muñoz 2019a).

ii) The case of the flipping towards the deep capitalism/deep economy paradigm under yellow sustainability gaps

1) Analytically

The idea of the flip from deep environmentalism to deep capitalism/deep economy under yellow sustainability gaps can be summarized analytically as indicated below:



The top part of the loop above indicates that when deep environmentalism (M4) internalizes economic concerns $I[b]$ and externalizes environmental concerns $E[C]$ it flips and takes the form of a deep capitalism/deep economy market (M3). The lower part indicates that

both the deep environmentalism model M4 and the deep capitalism/deep economy model M3 are delinked from yellow sustainability M8 as indicated by the broken arrow since both of them have yellow sustainability gaps: deep environmentalism has socio-economic yellow sustainability gaps (ab) and deep capitalism/deep economy has socio-environmental yellow sustainability gap(ac).

2) Graphically

The flip from the deep environmentalism model M4 to the deep capitalism/deep economy model M3 can be summarized graphically as shown in Figure 2 below:

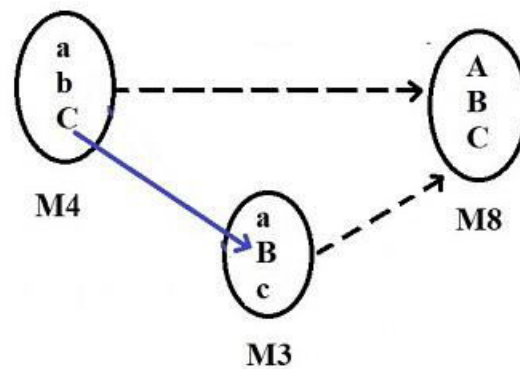


Figure2 The flip from deep environmentalism (M4) to deep capitalism/deep economy (M3)

Figure 2 above highlights a flip from an environment first model M4 to an economy first model M3 as indicated by the blue arrow, a horizontal shift from an independent environmental Pareto optimality world to an independent economic Pareto optimality world as it is a move from a one component dominant paradigm to another one component dominant paradigm. Figure 2 above also indicates that both M4 and M3 are disconnected from yellow sustainability as indicated by the broken arrows from M4 and M3 to M8.

3) The unsustainability of the flips to other deep paradigms

If we place the deep environmentalism market and its flips in the same plane we can appreciate their disconnection with yellow sustainability requirements as shown by the broken arrows from M4, M2 and M3 to M8 in Figure 3 below:

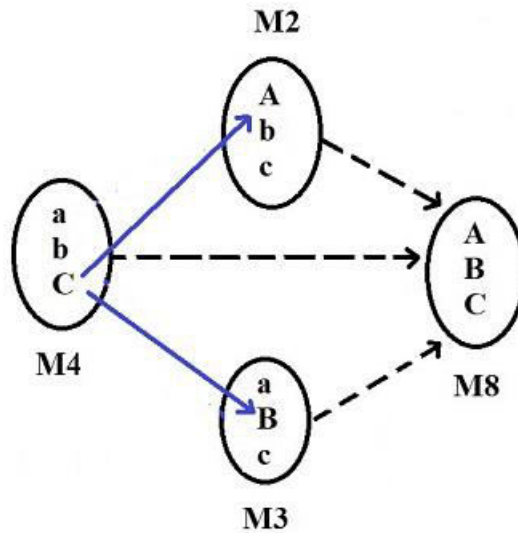


Figure 3 The unsustainability of deep environmentalism (M4) and its flips

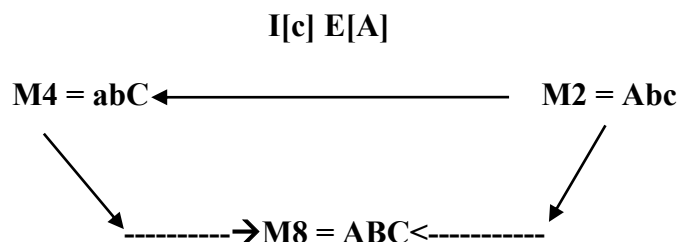
Notice that Figure 3 above does not only shows that all deep environmentalism flips are inconsistent with yellow sustainability requirements (M8), but also the model of deep environmentalism is inconsistent with yellow sustainability as shown by the broken arrow from M4 to M8.

b) The deep environmentalism model flip-back routes from other deep paradigms

i) The case of the flip-back from the deep socialism paradigm

1) Analytically

The idea of the flip back from deep socialism to deep environmentalism under yellow sustainability gaps can be stated analytically as follows:



The top part of the loop above indicates that when deep socialism (M2) internalizes environmental concerns $I[c]$ and externalizes social concerns $E[A]$ it flips and takes the form of a deep environmentalism paradigm (M4). The lower part indicates that both the deep environmentalism model M4 and the deep socialism model M2 are delinked from yellow sustainability M8 as indicated by the broken arrow since both of them have yellow sustainability

gaps: deep environmentalism has socio-economic yellow sustainability gaps (ab) and deep socialism has eco-economic yellow sustainability gap(bc).

2) Graphically

The flip back from deep socialism M2 to deep environmentalism model M4 can be summarized graphically as shown in Figure 4 below:

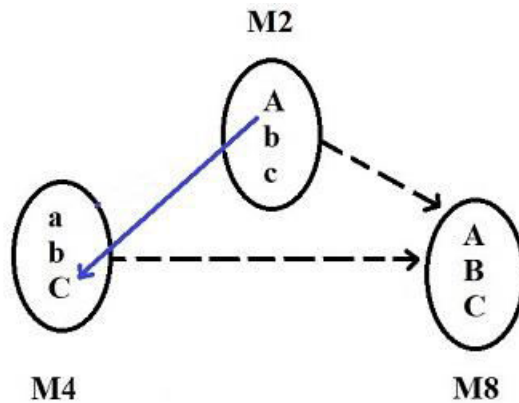


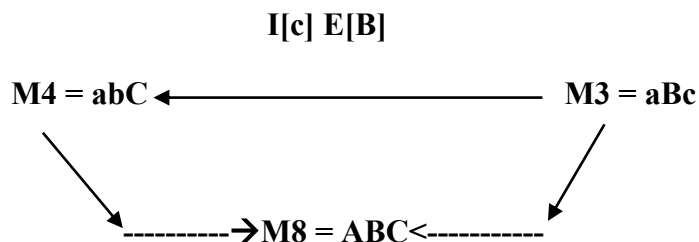
Figure 4 The flip-back from deep socialism (M2) to deep environmentalism (M4)

Figure 4 above stresses a flip from a society first model M2 to an environment first model M4 as indicated by the blue arrow, a horizontal shift from an independent social Pareto optimality world to an independent environmental Pareto optimality world as it is a move from a one component dominant paradigm to another one component dominant paradigm. Figure 4 above also indicates that both M2 and M4 are disconnected from yellow sustainability as indicated by the broken arrows from M2 and M4 to M8.

i) The case of the flip-back from the deep capitalism/deep economy paradigm

1) Analytically

The idea of the flip back from deep capitalism/deep economy to deep environmentalism under yellow sustainability gaps can be stated analytically as follows:



The top part of the loop above shows that when deep capitalism/deep economy (M3) internalizes environmental concerns I[c] and externalizes economic concerns E[B] it flips and

takes the form of a deep environmentalism model (M4). The lower part indicates that both the deep capitalism model M3 and the deep environmentalism model M4 are unconnected from yellow sustainability M8 as indicated by the broken arrow since both of them have yellow sustainability gaps: deep capitalism has socio-environmental yellow sustainability gaps (ac) and deep environmentalism has socio-economic yellow sustainability gap(ab).

2) Graphically

The flip back from deep capitalism/deep economy M3 to deep environmentalism model M4 can be summarized graphically as shown in Figure 5 below:

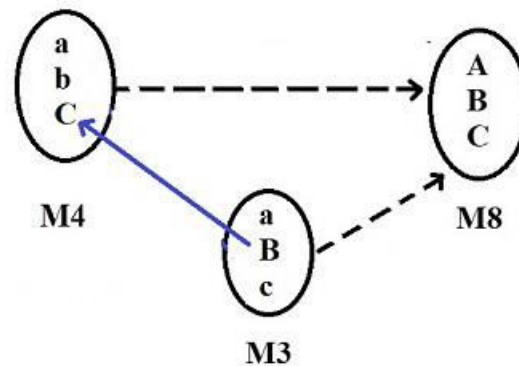


Figure 5 The flip-back from deep capitalism/deep economy (M3) to deep environmentalism (M4)

Figure 5 above points out a flip from an economy first model M3 to an environment first model M4 as indicated by the blue arrow, a horizontal shift from an independent economic Pareto optimality world to an independent environmental Pareto optimality world as it is a move from a one component dominant paradigm to another one component dominant paradigm. Figure 5 also shows that both M3 and M4 are disconnected from yellow sustainability as indicated by the broken arrows from M3 and M4 to M8.

3) The unsustainability of deep environmentalism flip-backs

If we place the deep environmentalism market model and its flip-backs in the same plane we can appreciate their disconnection with yellow sustainability model requirements as shown by the broken arrows from M4, M2 and M3 to M8 in Figure 6 below:

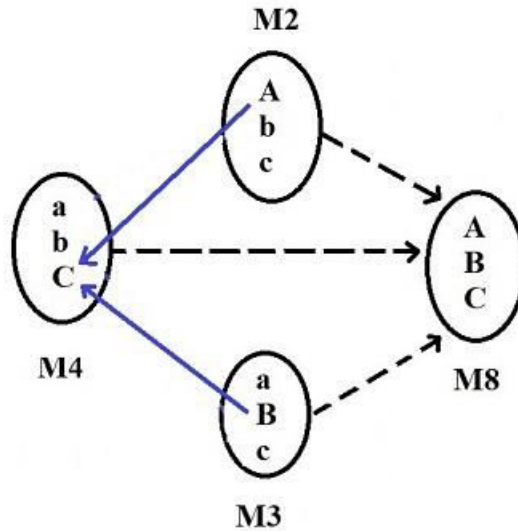


Figure 6 The unsustainability of deep environmentalism (M4) and its flip-backs

Notice that Figure 6 above does not only shows that all deep environmentalism flip backs are inconsistent with yellow sustainability requirements (M8), but also the model of deep environmentalism M4 is inconsistent with yellow sustainability as shown by the broken arrow from M4 to M8.

c) The unsustainability of the deep environmentalism model flips and flip-backs on the same plane

The unsustainability of the deep socialism model, its flips and flip-backs as well as the Thomas Kuhn's curse on the future of deep environmentalism thinking is highlighted in Figure 7 below:

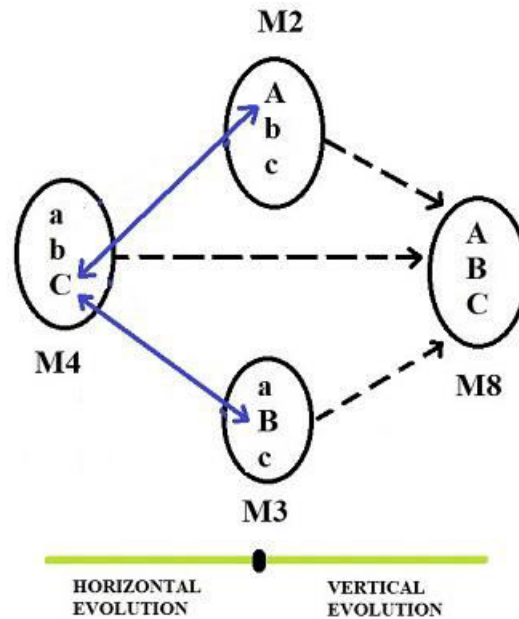


Figure 7 The unsustainability of the deep environmentalism (M4) and its flips and flip-backs

Figure 7 above highlights the area of horizontal paradigm evolution and of vertical paradigm evolution with respect to possible evolution routes. The left part of Figure 7 above indicates that deep environmentalism M4 flips horizontally to either deep socialism M2 or deep capitalism M3, a move where deep environmentalism loses its core values; and these new deep paradigms flip-back horizontally, a move where deep environmentalism reclaims its core values. Notice that a flipped core value becomes a new abnormality or externality or bias or sustainability gap for example a flip from deep environmentalism to deep capitalism eliminates the economic abnormality, but creates an environmental abnormality or a flip back from deep capitalism to deep environmentalism, it eliminates the environmental abnormality, but creates an economic abnormality now; and this means that we are in world here in the left side of Figure 7 above that falls outside the Thomas Kuhn's scientific evolution thinking loop as we are removing abnormalities in the flip or flip-back, but we are creating new ones at the same time. It has been shown (Muñoz 2019b) that paradigm evolution, including deep paradigm evolution, under competition is driven by sustainability gap competition or clashes under win-win situations and no win-win situations, and specific sustainability gaps can bring down specific paradigms, including specific deep paradigms such as the world of Adam Smith and the world of Karl Marx (Muñoz 2016), and that theory predicts that the same would happen to deep environmentalism paradigms under binding externality pressures through time.

The right side of Figure 7 above tells us that under socio-economic externality pressures deep environmentalism will evolve vertically to fully or partially save its core values in indirect steps or direct steps as indicated by the direction of the blue arrows towards the highest level of responsibility possible, yellow sustainability market or true sustainability M8. The indirect way

of vertical evolution as shown in Figure 7 above is a shift from independent perfect deep socialism markets M4 to partially codependent perfect markets (e.g. the socio-environmental market (SENM) = $AbC = SENM$), the eco-economic market (EECM) or green market (GM) = $aBC = EECM = GM$); and then these partially codependent markets shifts to fully codependent markets or fully conjunctural optimality based markets (e.g. Yellow sustainability markets (YSM) or true sustainability markets (S) = $ABC = M8 = YSM = S$). The direct way is a shift from independent perfect deep environmentalism markets M4 to fully codependent markets or fully conjunctural optimality based markets (e.g. Yellow sustainability markets (YSM) or true sustainability markets (S) = $ABC = M8 = YSM = S$). Notice that every vertical shift removes abnormalities and it does not create new ones and any vertical shift means that the knowledge base of the previous paradigm is left behind as it no longer works here as it is; and when we remove abnormalities without creating new ones to move to higher level paradigms we are in the world of Thomas Kuhn's paradigm evolution loop.

The Thomas Kuhn's curse for deep environmentalism:

Under binding socio-economic externality or sustainability pressures, deep environmentalism paradigms will evolve vertically in order to save their core value of environmental responsibility, and indirectly or directly, its final destination is a world under yellow sustainability or true sustainability markets.

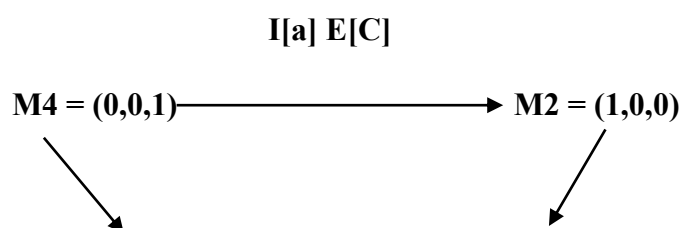
The case of deep environmentalism flips and flip backs in terms of conjunctural state variability

a) The deep socialism conjunctural state flip route to other deep conjunctural state paradigms

i) The case of the flipping towards the deep socialism conjunctural state under yellow sustainability conjunctural state gaps

1) Analytically

The idea of the flip from deep environmentalism conjunctural state to deep socialism conjunctural state under yellow sustainability conjunctural state gaps can be stated analytically as follows:



$$\text{-----}\rightarrow M8 = (1,1,1) <\text{-----}$$

The top part of the loop above tells us that when the deep environmentalism conjunctural state (M4) internalizes social concerns I[a] and externalizes environmental concerns E[C] it flips and takes the form of a deep socialism market conjunctural state (M2). The lower part indicates that both the deep environmentalism conjunctural state M4 and the deep socialism conjunctural state M2 are delinked from the yellow sustainability conjunctural state M8 as indicated by the broken arrow since both of them have yellow sustainability conjunctural state gaps: the deep environmentalism conjunctural state has socio-economic yellow sustainability conjunctural state gaps (ab) and the deep socialism conjunctural state has eco-economic yellow sustainability conjunctural state gaps(bc).

2) Graphically

The flip from the deep environmentalism conjunctural state M4 to the deep socialism conjunctural state M2 can be summarized graphically as shown in Figure 8 below:

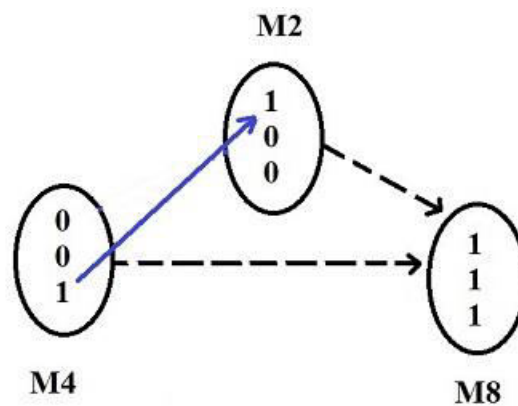


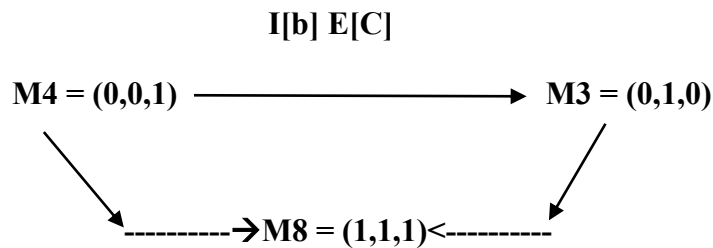
Figure 8 The flip from deep environmentalism conjunctural state (M4) to deep socialism conjunctural state (M2)

Figure 8 above shows a flip from an environment first conjunctural state M4 to a society first conjunctural state M2 as indicated by the blue arrow, a horizontal shift from an independent environmental Pareto optimality world to an independent social Pareto optimality world as it is a move from a one component dominant paradigm to another one component dominant paradigm. Figure 8 above also shows that both M4 and M2 are disconnected from the yellow sustainability conjunctural state as indicated by the broken arrows from M4 and M2 to M8.

ii) The case of the flipping towards the deep capitalism /deep economy conjunctural state under yellow sustainability conjunctural state gaps

1) Analytically

The idea of the flip from deep environmentalism conjunctural state to deep capitalism /deep economy conjunctural state under yellow sustainability conjunctural state gaps can be indicated analytically as shown below:



The top part of the loop above shows that when deep environmentalism conjunctural state (M4) internalizes economic concerns I[b] and externalizes environmental concerns E[C] it flips and takes the form of a deep capitalism/deep economy conjunctural state market (M3). The lower part indicates that both the deep environmentalism conjunctural state M4 and the deep capitalism conjunctural state M3 are delinked from yellow sustainability conjunctural state M8 as indicated by the broken arrow since both of them have yellow sustainability conjunctural state gaps: the deep environmentalism conjunctural state has socio-economic yellow sustainability conjunctural state gaps (ab) and the deep capitalism/deep economy conjunctural state has socio-environmental yellow sustainability conjunctural state gaps(ac).

2) Graphically

The flip from the deep environmentalism conjunctural state M4 to the deep capitalism conjunctural state M3 can be highlighted graphically as shown in Figure 9 below:

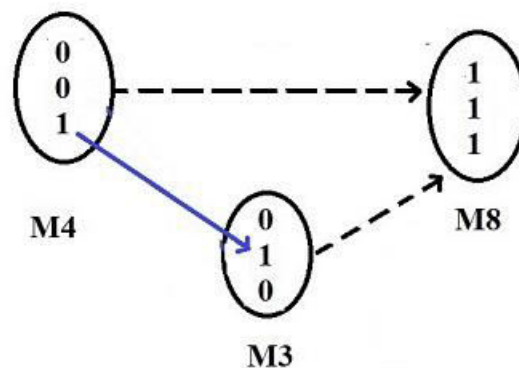


Figure 9 The flip from deep environmentalism conjunctural state (M4) to deep capitalism/deep economy conjunctural state (M3)

Figure 9 above shows a flip from an environment first conjunctural state M4 to an economy first conjunctural state M3 as indicated by the blue arrow, a horizontal move from an independent environmental Pareto optimality world to an independent economic Pareto optimality world as it is a move from a one component dominant paradigm to another one

component dominant paradigm. Figure 9 above also indicates that both M4 and M3 are disconnected from the yellow sustainability conjunctural state as indicated by the broken arrows from M4 and M3 to M8.

3) The unsustainability of the conjunctural state flips to other deep conjunctural state paradigms

If we place the deep environmentalism conjunctural state and its flips in the same plane we can see their disconnection with the yellow sustainability conjunctural state requirements as shown by the broken arrows from M4, M2 and M3 to M8 in Figure 10 below:

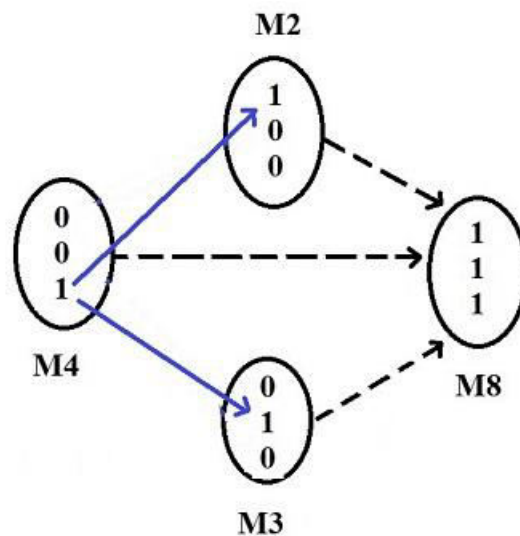


Figure 10 The unsustainability of deep environmentalism (M4) and its conjunctural flips

Notice that Figure 10 above does not only shows that all deep environmentalism conjunctural state flips are inconsistent with yellow sustainability conjunctural state requirements (M8), but also the conjunctural state of deep environmentalism is inconsistent with yellow sustainability conjunctural state as shown by the broken arrow from M4 to M8.

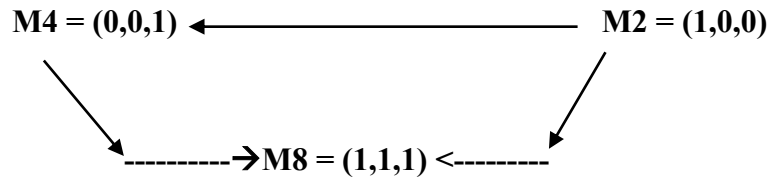
b) The deep environmentalism conjunctural state flip-back routes from other deep conjunctural state paradigms

i) The case of the flip-back from deep socialism conjunctural state

1) Analytically

The idea of the flip back from deep socialism conjunctural state to deep environmentalism conjunctural state under yellow sustainability conjunctural state gaps can be stated analytically as follows:

$$I[c] E[A]$$



The top part of the loop above stresses that when deep socialism conjunctural state (M2) internalizes environmental concerns $I[c]$ and externalizes social concerns $E[A]$ it flips and takes the form of a deep environmentalism conjunctural state (M4). The lower part indicates that both the deep environmentalism conjunctural state M4 and the deep socialism conjunctural state M2 are delinked from yellow sustainability conjunctural state M8 as indicated by the broken arrow since both of them have yellow sustainability conjunctural state gaps: deep environmentalism conjunctural state has socio-economic yellow sustainability conjunctural state gaps (ab) and deep socialism conjunctural state has eco-economic yellow sustainability conjunctural state gaps(bc).

2) Graphically

The flip back from deep socialism conjunctural state M2 to deep environmentalism conjunctural state M4 can be indicated graphically as shown in Figure 11 below:

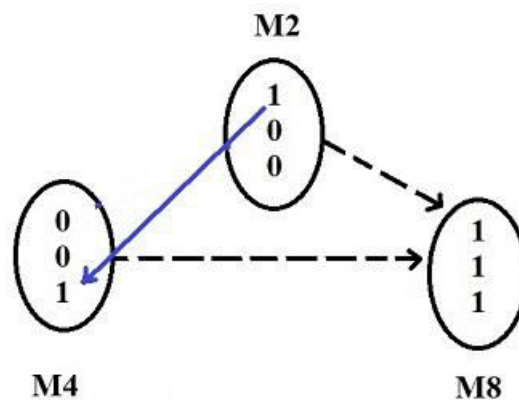


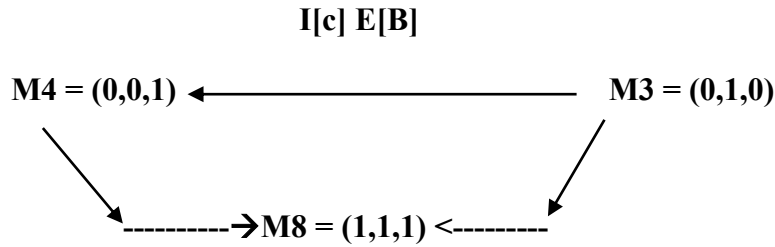
Figure 11 The flip back from deep socialism (M2) to deep environmentalism (M4)

Figure 11 above stresses a flip-back from a society first conjunctural state M2 to an environment first conjunctural state M4 as indicated by the blue arrow, a horizontal move from an independent social Pareto optimality world to an independent environmental Pareto optimality world as it is a move from a one component dominant paradigm to another one component dominant paradigm. Figure 11 above also indicates that both M4 and M2 are disconnected from the yellow sustainability conjunctural state as indicated by the broken arrows from M4 and M2 to M8.

ii) The case of the flip-back from the deep capitalism conjunctural state

1) Analytically

The idea of the flip back from deep capitalism/deep economy conjunctural state to deep environmentalism conjunctural state under yellow sustainability conjunctural state gaps can be indicated analytically as follows:



The top part of the loop above points out that when deep capitalism conjunctural state (M3) internalizes environmental concerns I[c] and externalizes economic concerns E[B] it flips and takes the form of a deep environmentalism conjunctural state (M4). The lower part indicates that both the deep environmentalism conjunctural state M4 and the deep capitalism conjunctural state M3 are unconnected from yellow sustainability conjunctural state M8 as indicated by the broken arrow since both of them have yellow sustainability conjunctural state gaps: the deep environmentalism conjunctural state has socio-economic yellow sustainability conjunctural state gaps (ab) and deep capitalism/deep economy conjunctural state has socio-environmental yellow sustainability conjunctural state gaps(ac).

2) Graphically

The flip back from deep capitalism/deep economy conjunctural state M3 to deep environmentalism conjunctural state M4 can be shown graphically as shown in Figure 12 below:

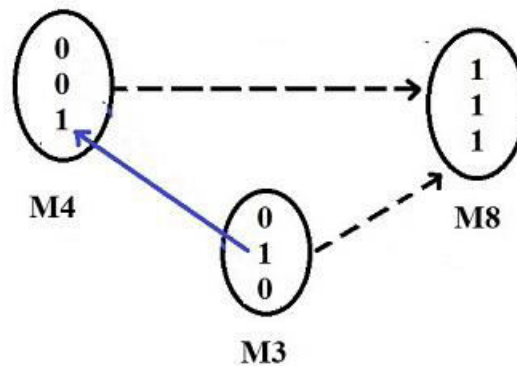


Figure 12 The flip back from deep capitalism/deep economy (M3) to deep environmentalism conjunctural state (M4)

Figure 12 above points out a flip from an economy first conjunctural state M3 to an environment first conjunctural state M4 as indicated by the blue arrow, a horizontal move from an independent economic Pareto optimality world to an independent environmental Pareto optimality world as it is a move from a one component dominant paradigm to another one component dominant paradigm. Figure 12 above also shows that both M4 and M3 are

disconnected from the yellow sustainability conjunctural state as indicated by the broken arrows from M4 and M3 to M8.

3) The unsustainability of deep environmentalism conjunctural state flip-backs

If we place the deep environmentalism conjunctural state and its flip-backs in the same plane we can appreciate their disconnection with yellow sustainability conjunctural state requirements as highlighted by the broken arrows from M4, M2 and M3 to M8 in Figure 13 below:

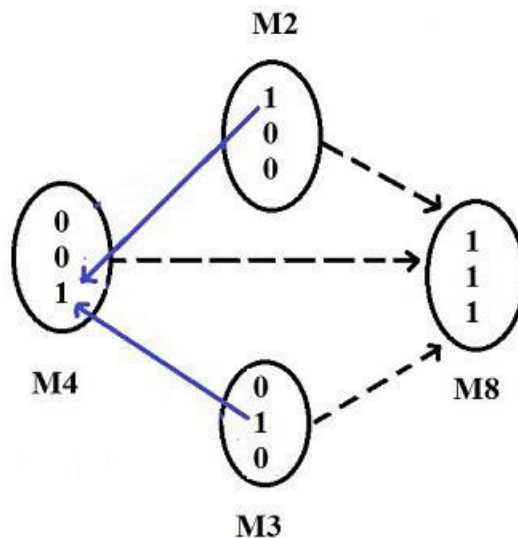


Figure 13 The unsustainability of deep environmentalism (M4) and its conjunctural state flip-backs

Notice that Figure 13 above does not only indicate that all deep environmentalism conjunctural state flip-backs are inconsistent with the yellow sustainability conjunctural state requirements (M8), but also the conjunctural state of deep environmentalism M4 is inconsistent with the yellow sustainability conjunctural state as shown by the broken arrow from M4 to M8.

c) The unsustainability of the deep environmentalism conjunctural state flips and conjunctural state flip-backs on the same plane

The unsustainability of the deep environmentalism conjunctural state, its flips and flip-backs as well as the Thomas Kuhn's curse on the future of deep environmentalism thinking is stressed in Figure 14 below:

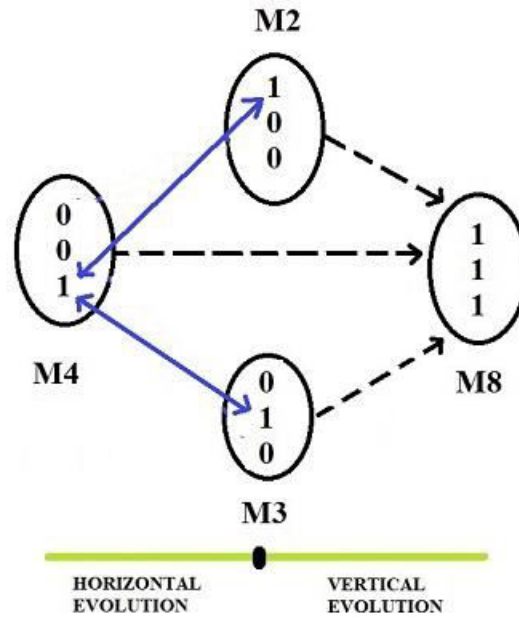


Figure 14 The unsustainability of the deep environmentalism conjunctural state (M4) and its conjunctural flips and its conjunctural flip-backs

Figure 14 above points out the area of horizontal paradigm evolution and vertical conjunctural paradigm evolution with respect to possible conjunctural evolution routes. The left part of Figure 14 above indicates that the deep environmentalism conjunctural state M4 flips horizontally to either deep socialism conjunctural state M2 or deep capitalism conjunctural state M3, a move where the deep environmentalism conjunctural state loses its core values; and these new deep paradigms flip-back conjuncturally horizontally, a move where the deep environmentalism conjunctural state reclaims its core values. Notice that a flipped core value becomes a new abnormality or externality or bias or sustainability gap for example a flip from deep environmentalism conjunctural state to deep capitalism conjunctural state eliminates the economic abnormality, but creates an environmental abnormality or a flip back from deep capitalism conjunctural state to deep environmentalism conjunctural state, it eliminates the environmental abnormality, but creates an economic abnormality now; and this means that we are in a conjunctural world here in the left side of Figure 14 above outside the Thomas Kuhn's scientific evolution thinking loop as we are removing abnormalities in the conjunctural flip or conjunctural flip-back, but we are creating new ones at the same time.

The right side of Figure 14 above tells us that under socio-economic externality pressures the deep environmentalism conjunctural state will evolve vertically to fully or partially save its core values in indirect steps or direct steps as indicated by the direction of the blue arrows towards the highest level of conjunctural responsibility possible, yellow sustainability market conjunctural state or true sustainability market conjunctural state M8. The indirect way of vertical evolution as shown in Figure 14 above is a shift from independent perfect deep environmentalism conjunctural state M4 to partially codependent perfect conjunctural states (e.g.

the socio-environmental market (SENM) = AbC = SENM; the eco-economic market (EECM) or green market (GM) = aBC = EECM = GM); and then these partially codependent conjunctural states shifts to fully codependent conjunctural states or fully conjunctural optimality based states (e.g. Yellow sustainability market conjunctural state (YSM) or true sustainability markets conjunctural state (S) = ABC = $M8$ = YSM = S). The direct way, as indicated in Figure 14 above, is a shift from an independent perfect deep environmentalism conjunctural state $M4$ to fully codependent conjunctural state or fully conjunctural optimality based states (e.g. Yellow sustainability market conjunctural state (YSM) or true sustainability market conjunctural state (S) = ABC = $M8$ = YSM = S). Notice that every vertical conjunctural shift removes abnormalities and it does not create new ones and any vertical conjunctural shift means that the knowledge base of the previous paradigm is left behind as it no longer works here as it is; and when we conjuncturally remove abnormalities without creating new ones to move to higher level conjunctural paradigms we are in the world of Thomas Kuhn's paradigm evolution loop. It has been recently highlighted (Muñoz 2025a) that traditional pareto optimality thinking as the one that holds in the deep capitalism model ($M3 = aBc$) and deep capitalism conjunctural state ($M3 = (0,1,0)$) in the figures above is inconsistent with conjunctural optimality thinking that holds in the yellow sustainability model or true sustainability model ($M8 = ABC$) and in the yellow sustainability conjunctural state or true sustainability conjunctural state ($M8 = (1,1,1)$) and due to this an expansion of pareto optimality thinking has been proposed and shared (Muñoz 2025b) so we can properly look at fully conjunctural issues such as the unity of sustainability (Muñoz 2025c).

The Thomas Kuhn's curse for the deep environmentalism conjunctural state:

Under binding socio-economic externality or sustainability pressures, deep environmentalism conjunctural states will evolve vertically in order to save their core value of environmental responsibility, and indirectly or directly, its final destination is a world under yellow sustainability market conjunctural states or true sustainability market conjunctural state.

Specific implications

1) It is possible to look at the evolution of deep environmentalism, both from the component variability point of view and from the conjunctural state variability point of view both horizontally and vertically: Horizontal evolutions means new deep paradigms stays at the same level of externality irresponsibility as the old ones, but of different externality mix. Vertical evolution means the new paradigm has a higher level externality responsibility than the previous one and the knowledge base of the previous paradigm is left behind;

2) It is possible to look at the evolution of deep environmentalism based pareto optimality thinking, both from the component variability point of view and from the conjunctural state variability point of view: Horizontal evolution means horizontal inverse pareto optimality evolution. Vertical evolution means a move to a point of higher level Pareto optimality or responsibility;

3) It is possible to delinked horizontal deep paradigm evolution, including deep environmentalism paradigm evolution, both component and conjunctural evolution based, from the scientific paradigm evolution thinking a la Thomas Kuhn while it is possible to link vertical deep paradigm evolution, including deep environmentalism evolution, both component and conjunctural evolution based, to the scientific paradigm evolution thinking a la Thomas Kuhn: Removing abnormalities while creating new ones in the process as in horizontal deep paradigm evolution, including deep environmentalism evolution, means this falls outside Thomas Kuhn's paradigm evolution thinking and expectations. Removing abnormalities without creating new ones in the process as in vertical deep paradigm evolution, including vertical deep environmentalism evolution, means a world under Thomas Kuhn's paradigm evolution thinking and expectations

General implications from the deep environmentalism evolution angle

- 1) It is possible to expand paradigm evolution thinking beyond the world of Thomas Kuhn;
- 2) It is possible to expand Pareto optimality thinking beyond the world of traditional Pareto optimality thinking;
- 3) It is possible to see the type of paradigm evolution at play just by looking at whether or no new externalities are creating in the process; and
- 4) It is possible to show that the conjunctural theorem based world (a codependent world, full or partial) leaves the traditional additive thinking based world behind (a fully independent world) as here independent choices do not exist.

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