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#### **EDITORIAL**

## DISCIPLINE AND RESEARCH: BORDERS AND FRONTIERS

# TEMA Technologies Engineering Materials Architecture

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I think that the research directions of our discipline, as they have been outlined in the last years starting from their historically determined framework, can be associated with two categories borrowed from Piero Zanini<sup>1</sup>, the "border" and the "frontier". They become the organizing criteria through which we can reinterpret outcomes and development perspectives of these studies.

According to Zanini, the "border" "indicates a common limit, a separation between contiguous spaces; it is also a way to peacefully establish everyone's right of ownership over a territory". Thinking of a border and building a fence means inventing a field and enclosing it, highlighting its size, shape, and functions.

I believe the research that many of us are undertaking reveals the different ways of coping with the concept of border.

In a first interpretation, the border defines a known research field within which to explore its limits, always moving in a familiar territory that unequivocally leads back to a comfort zone. This confidence is a guarantee of a high level of knowledge of the field itself and reaffirms its "robustness", even at the risk of falling into the cliché of *déjà fait*, *déjà vu*.

As the boundary becomes closer and closer, a second interpretation takes shape, leading to the perception of the border as too binding for the operational environment. As a result, this situation leads some researchers to go further, opening up gaps into neighboring disciplinary territories, thus facing the challenge – and the risk – of not always being relevant if they fail to "place all the information correctly" not only "in their own context" but also outside it<sup>2</sup>. The uncertain awareness with which the territories of complexity concerning this challenge are explored results in an adventure within different dis-

ciplinary fields. The scientific paradigm, entirely focused on the method, is not sufficient to guide this research; making the interweaving intelligible through the aid of simulations rather than experiments does not seem sufficient to restore its multiple facets and hybrid nature. This mainly happens when the attention is limited to topics whose scientific relevance should embrace the dimension of the exception – further accumulator of complexity<sup>3</sup> – and not of the rule.

All this implies that research developed in several fields must start from here and bring a rethinking of the disciplinary field. A rethinking that introduces, in fact, a new condition of otherness able to cross our boundaries and at the same time preserve them from the risk of reaching a state of foreignness, trespassing, or ambivalence, which can also lead to the insidious misunderstanding of the "coexistence of two statements (I am this and that)".

Then I would like to recall the Italian-French movie "La legge è legge" (The law is the law) starring Fernandel, in the role of an honest and responsible French customs officer and Totò in the role of a Neapolitan smuggler. The events, set on the French-Italian border in the imaginary town of Assola, show the character played by Fernandel as the victim of a comedy of misunderstanding: from being a respected French citizen, he first becomes an Italian outcast, and then a stateless person, and as such, unwanted by the authorities of both countries. However, the vicissitudes he goes through result from a deception: the old owner of the inn, in which the protagonist was born, is located precisely on the border itself. The innkeeper had arbitrarily moved the Italian borderline from one room to another to attract more tourists, thus transforming Fernandel, born in French land, into a fake Italian. The deception is revealed thanks to the smuggler Totò, who finds two bottles of wine of different vintages on whose labels are depicted the two different borderlines. At that point, the old innkeeper is scolded by the smuggler, who tells him: "are you crazy? Don't you know that you can't move the borders!"

The Neapolitan actor's statement may be approved or not; however, I believe that moving a boundary is not always a legitimate operation and, in any case, complex.

The border, intended in the sense with which I proposed this kind of reasoning, can instead welcome the theme of ambivalence only in terms of reflection, of *articulation of right questions*, as Pascal<sup>4</sup> himself reports. Considering that frequently what was true on one side of the Pyrenees was no longer true beyond them, he recognizes the need to know what there is in common between the two slopes of the same mountain system and, if anything, what it is and where is the truth that lies "beyond".

It is necessary to introduce the concept of "frontier" to continue with the categories adopted by Piero Zanini. According to the architect, "the frontier represents the end of the Earth, the ultimate limit beyond which to venture"; to cross the frontier "means leaving a familiar, known, reassuring space and entering that of uncertainty".

The frontier contains within itself the noun "fronte" (front). It refers in its etymology both to "affrontare" (facing), which implies the need to discuss with the other, and "fronteggiare" (confronting), which gives the possibility, in a challenging dimension, to overcome known boundaries, suggesting the direction and progression of change.

Unlike border, frontiers do not require being inside or outside a delineated territory, but instead occupying a strip of that extreme territory. In this unordered liminal space, everything often blurs and mixes without attribution of belonging to inside or outside categories; this is "the place where the norm, the rule that border establishes no longer applies, the land where everyone must take care of himself and everything becomes possible".

The frontier is therefore not configured as a physical limit but as a meso-space with no name whose thickness is given by margins that are never clear, nor univocally definable, nor even impenetrable. A meso-space in which

to operate, trying to redetermine the discipline's operational fields through an osmotic potential identified each time. The condition of anomie leads to giving up the established system of rules. Therefore, the research methodologies must be reinvented with respect to tailor-made strategies and tactics.

In this perspective, "the problem is not to open the frontiers between disciplines, but to transform what generates these frontiers: the organizing principles of knowledge". Investigating knowledge's operational fields represents an impervious and elitist path, tackled only by a few who have accepted the challenge of moving in unfamiliar contexts, betting on trans-disciplinarity although being aware of the longer wait for the achievement of certain outcomes.

What stated so far highlights an interpretation aimed at provoking deep thought and, I hope, an open debate within our disciplinary field, on its roots and perspectives, in a framework of a significant change of society, in view of the ongoing transformations induced by the actual contingency events. The adoption of both debated categories of "border" and "frontier" seems, in fact, functional to describe their condition of crisis, with respect to the firmness of the border and the exploration possibilities of the frontiers. Both aspects exemplify the two risk scenarios in which researchers can incur: to remain closed in their enclosure or to be foreigners in the land of others.

Nevertheless, the scenario I have tried to outline and emerging from the territories of knowledge explored here represents the prerequisite for orienting towards *serendipity*. If, breaking away from the beaten paths, the research fields do not still find shared canons that can group them in an organic form, if "we are used to placing the sign '*Various*' on them, it is precisely here that we must penetrate".

Therefore, I would like to leave the conclusion of this reflection open by quoting Piero Zanini once again. He stated: "borders and frontiers are cultural constructions that can take on many different meanings. They are at the same time the affirmation and the negation of themselves and of the dichotomies and ambiguities that they determine [...] The ambiguity of the boundaries is all here, and the unpredictability of our behaviors in front of them

requires us, perhaps, to play with them: the boundary is there, but it cannot be seen. At least as long as we are in the middle of it". Staying in the middle, nowadays more than ever, implies at least one awareness: the oscillation of our actions has an amplitude whose points of inversion are, on the one hand, aesthetic capitalism and, on the other hand, scientific capitalism. Both of them are rules and not exceptions of a society that trusts in the myth of the circular economy to find a possible way of salvation.

#### Notes

- <sup>1</sup> Zanini P (1997) Significati del confine. I limiti naturali, storici, mentali. Mondadori, Milano
- <sup>2</sup> Morin E (1999) La tête bien faite, trans. Lazzari S (2000), La testa ben fatta. Riforma dell'insegnamento e riforma del pensiero. Raffaello Cortina, Milano
- <sup>3</sup> Ceruti M, Bellusci F (2020) Abitare la complessità. La sfida di un destino comune. Mimesis, Milano-Udine
- <sup>4</sup> Pascal B (1669) Pensées, trans. Allason B (1936), Pensieri. Utet, Torino
- <sup>5</sup> Debray R (2010) Éloge des frontières, trans. Favetto GL (2012), Elogio delle frontiere. ADD editore, Torino