Scientific Realism, the EU, and EU Integration Theories

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2008 ISA, San Francisco, Saturday, 29th, 2008, SD05
Panel: Bridging Theoretical and Disciplinary Divides through Scientific Realism II:
Putting Scientific Realism to work in IR Theories and in Substantive Research
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Abstract

Scientific realism has a hard time finding a home. As well as the current gaps meaningfully connecting it to IR, there are looming lacunae in the interface between scientific realism and mainstream perspectives on European integration. This chapter focuses upon the key understandings which emerge once the theoretical assumptions of European integration are subjected to the principles of scientific realism. One possible consequence is an ability to probe far more deeply into both the generative mechanisms of European integration and the unobservable structures of the EU itself than various atomistic or idealist views. The chapter then suggests that scientific realism has the capacity to launch a robust critique of the underlying assumptions of European integration theory. Indeed, it may be uniquely capable of shedding light on the one issue that continues to bedevil European theorists of all stripes: the reality of the unobservable, which in this case includes the underlying political structures, social processes and economic relations instantiated for half a century. Europe's success has also been its undoing: integration is still regarded as too 'virtual' to be of much ontological interest or epistemological value. Scientific realism however can help move integration debates away from current epistemological quagmires and toward a clearer idea of the independent dynamics of European integration.

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'Scientists aren't like us you know. You can't just walk up to them and say, "good morning, how's your wife, lend me a quid", and so on. As the eminent scientist C.P. Snow made clear, you have to speak to scientists in language that they will understand. Something like, 'H_2So_4, Professor! And the reciprocal of *pi* to your good wife. You must in theory, and in practice, go back to first principles.'
Flanders and Swann, At the Drop of A Hat, c. 1965.

'I'm guessing there's a password. I'm going to guess carrot.'
'Why carrot?'
'No one else would guess it.'
'You did.'
'Ok, what about carrot88? No, carrot 89. Damn it, why is it that I can only think of things that I can think of?'
My Name is Earl, c. 2006.

Introduction

James Bond was wrong. Evidently, the world **is** enough. Indeed, the world may hold out so many possibilities that we are forced to use theory to test against the world to determine its existence, its characteristics, and its impacts. A number of avenues have presented themselves in the past few centuries: Aristotelian searches after causes of processes, Renaissance systematic observations, Enlightenment-derived rationalism, Humean causation, empiricism, logical positivism with its deductive passions. Opposition was encountered: meta-physics, humanism, interpretivism, post modernism etc).

The philosophy of science has had a bumpy ride. The widest chasm is still in existence. Positivist models on one side are dedicated to the systemic analysis of observable patterns of events, operating with an empirical methodology. On the other, the possibility of a deeper ontology, the suggestion that the systematic gathering and analysis of regularities serves only instrumental

purposes, and does not actually unveil much about the reality of objects or the world around us.

This chasm is mirrored in the social sciences, which has replied with its own divide. The empiricist camp has its hard and soft adherents; the former emerge from a solid behavioural tradition (many now ensconced in FPA), the latter take post-behaviourist forms, examining assorted micro-patterns, using methods qualitative inference. In contrast, stands a wide range of interpretive social theorists who believe it well nigh impossible to investigate the social realm using the models of natural science. The 'stuff', they contend, is simply different. Social entities are fluid, contingent, context-dependent, value-bound, where actors are deeply embedded in structures of their own making, constrained yet capable in their agency, but foreclosing the possibility of decent objective access to the reasons or causes behind their behaviour.

Direct empirical observation **may** be possible, but it has to factor in so many associated variables that it will ultimately not produce neat law-like regularities, only a series of observations. The uncompromising language of science – with its stringent laws, objectivity, causality and deductive-based prediction - is simply unsuited to the discourse of the social. (Indeed, going down the road of the post-modernists, science itself be a chimera, a pretence with no higher claim on apprehending the true nature of the world than any other approach.) All that can be attempted is an analysis that prioritises the constitutive nature of social objects, and the equally constitutive patterns of norms, rules, meanings and discourses that they generate.

Is there a middle ground? There are two. Scientific realism (via the philosophy of science) and critical realism (via philosophy of social science) both attempt to straddle divisions between positivism and interpretivism, between causal and constitutive analysis, between objectivist and normative approaches. They offer significant advantages to social scientists reluctant to commit to the orthodoxy of either side and who feel that IR theories and substantive research are better suited to a more critical appraisal of the choice of theory and nature of ontology with which they are dealing. There is a good deal of literature now available on critical realism (CR), thanks to the prodigious and comprehensible work done by its various sibyls (Bhaskar in particular, also Putnam, Psillos, Bunge, Sayer, Patomäki). It is beyond the scope of this paper to delve into their particular principles. Suffice to say that CR in general presents more

emphatically socially cultivated understandings than are typically found in scientific realism (Patomäki and Wight, 2000).

Possibly because of this, scientific realism (SR) appears to come off the worse of the two. Not only is it frequently confused with its better-known cousin (Brown, 2006), emerging from the depths of the philosophy of science means that it brings a spectacularly heavy set of concepts with it, few of which make for easy bridge-building with the social sciences. Where critical realism assumes that a modified *scientific* approach can successfully explain key *social* processes, scientific realism appears dedicated to the idea that *science* – in its broadest sense – is a *social* practice. In other words, SR assumes that what holds true for science holds true for the social: and that is the existence of an independent reality. Because the practices of science are now dedicated to theorising and articulating deeper structures, this means admitting to a meta-physical appreciation of the world of unobservables. An independent reality can therefore be assumed to exist, even in the absence of empirical observations. SR's helpful lynchpin is suggesting that if unobservables exist and can be theorised in the scientific world, they likewise exist and can be theorised in the social world. Simply put, unobservables obtain. SR is therefore dedicated first to accepting the reality of the 'deep ontological' layers by which our world is constituted, and second to capturing some of their core qualities in the practice of theory-making.

From the lynchpin of the scientific to the social, we move further toward the interface between SR and IR (Wendt, Chernoff, Millennium, RCT, etc). Applying SR to IR (and its cognate subfields, including EU integration studies) raises crucial ontological, epistemological, and probably methodological implications.

Disposing of a methodology privileging law-like generalities, social objects (values, ideas, motivations, discourses and social structures themselves) are accepted to exist as a highly dynamic but unobservable nexus or 'open system', which may produce observable behaviour but is functionally driven by a series of (primary) causal, and (subsequently) generative mechanisms. Acknowledging this sophisticated network is job one, appreciating the context and **conditions** by which human action and social structures is caused, reproduced, and made ontologically real is job two. Although the SR/CR literature is still not explicit on this point – and the author freely admits to

being corrected on this point (!) - the difference *may* be that CR implies an ontological dependence of social structures upon the internal activities and agents that give them life. SR appears to have a more stringent ontological interpretation, suggesting that social structures (like natural structures) over time obtain as independent entities, surviving as 'real' outside our own actions upon them, and our own theorising of them. There is something of an ontological gap between Bhaskar's idea of social structures and those analysed by Popper, Putnam and the SR gang.

The present paper is an initial consideration of the merits of SR's applicability to studying both the entity of the European Union, and the array of EU integration theories that have accompanied the emergence of the EU itself. The final result is, at this point, uneven.

The broad ontological qualities of the EU are reinforced by the assumptions of SR (emphasis on unobservables). SR approaches mean that the generative mechanisms at the heart of EU institution-building and policy expansion emerge more clearly, and some aspects of EU integration theory (especially the functional/federal debate) are better highlighted. But SR's internal quarrels reflect badly on explaining key aspects as well: its insistence on accuracy vs generalisable qualities comes adrift from the broad patterns inherent in the structure of the EU, its neglect of explicit links between material and ideational forces some unpersuasive bridge-building to explain the difference between market and union identities and goals, its yet-unclear contribution to the agent-structure debate which clouds still further the levels of actors, agents and agency at work in the EU, and its overall meta-status may ultimately lend no new terms, or ontological qualities to the EU, itself labouring under a weight meta-identity of its own.

What follows is therefore a brief overview of the key tenets of SR, amassed from classic and contemporary sources, rounded off with an overview of recent work done on an SR-IR interface. Using an examination of a few key areas which exist albeit in different fashion – in both EU studies and SR – the paper proceeds to lay the conceptual groundwork for appraising the explanatory power of SR as a philosophy of science applicable to International Relations and one of its newer sub-fields. Subjecting both the entity of the EU, and two mainstays of EU integration theory (neo-functionalism vs federalism) to the

philosophical implications of SR, the conclusion suggests an interesting but ultimately uneven utility for SR in this particular area.

Part I

As is well-known, SR and CR emerged from the 'mature' domain of the natural sciences (physics, chemistry, along with the mathematical, physical and chemical properties of other sciences), bequeathing respectively a scientific and a philosophical method for appropriating the world around us. The natural sciences encountered their own paradigmatic revolution during the middle of the twentieth century, beginning when physics was impelled to part ways from purely objective models of scientific inquiry. New fields (Heisenberg's work on the uncertainty principle, quantum theory, wave-particle dilemmas, etc) forced the majority of scientists 'to reject the notion that a totally objective description of reality, independent of the observer' was possible, or indeed that phenomena were capable of uniform reductionist treatment (MacLennan, 2001: 313). Kuhn, Feyerabend and others launched 'relativistic philosophies of science', prioritising the role of context, and replacing science's uniformity and universalism with a set of discontinuous, paradigmatic developments (Ibid).

In the German sense of *Wissenschaft*, SR carries with it 'the broader connotation of any disciplined human mode of intellectual activity' (MacLennan, 2001: 312). However, it is not always easy to reconcile the previous heritage of scientific methodology with SR's recent application to social content, or indeed its differing applications to various IR theories.[1]

SR is variously a philosophy of science, a derivative of the history of science, a debateable 'empirical hypothesis' (Douven and van Brakel, 1995: 3), a 'philosophical position', not a theory (Joseph, 2006: 345), etc. It has its conservatives (Putnam and Boyd), its liberal interpreters and its new prophets. For MacLennan, scientific realism 'means that the world is such that reliable knowledge of the world is possible, and that the process of human knowing is

[1] According to Putnam and Boyd, SR sits atop two key principles: '(1) terms in a mature science typically refer; (2) the laws of a theory belonging to a mature science are typically approximately true… [and] is open to empirical test [in which] (i) scientific realism can be corroborated by certain fact, and (ii) it could turn out to be false' (Douven and van Brakel, 1995: 3). Laudan however, has refuted the first of these propositions, convincingly demonstrating that simply because 'a theory's central terms refer does not entail that it will be successful', forcing greater explanatory requirements on the congruence between a given theory and its replication of the world (Laudan, 1981: 242).

such that human beings do gain reliable knowledge of the world' (2001: 312). While it contains a meta-theoretical quality that permits it to absorb clashing approaches like instrumentalism and interpretivism, as a recognised epistemological position, SR must be distinguished from the rigidly positivist approach identified in instrumentalist-empiricism (Chernoff, 2002: 189).

Instrumentalist-empiricism represents the original, and orthodox scientific pedigree in which both testing and predictions about a consummately observable world constitute the key element of theory. Theories are simply devices that facilitate – but do not complete - observations, and crucially, predictions, and which can be empirically verified. Testability and generalizability (both in terms of utility, and prediction) are the watchwords here. Instrumentalist-empiricism does not engage with unobservable entities due to the impossibility of constructing tests that could either measure or predict that world. Theories are only a halfway house: as heuristic device (Rosenberg, 1988: 157), or useful fictions, they serve the purpose of constructing broader hypotheses; theories may help ring-fence observations, but can do no more than provide the ''scaffolding' [for] a set of hypotheses' (MacDonald, 2003: 553).

Theories for SR, are of course crucial. They are not merely the tools of the scientific enterprise, they are real in and of themselves – they have an ontological existence as valid and necessary as the entities which they posit. SR therefore looks at the broad spectrum of unobservables, admitting them as real, approachable, and theorizable, and impels analysts to theorize the actual, causal mechanisms underlying all social and political life (Checkel, 2005). We could expand this to suggest that SR provides something of an evaluative template for the improvement of theories by incorporating the world of the unobservable, and positing the reality of its underlying structures. Other theories essentially pass through the conceptual prism offered by SR, becoming refracted in the quality of their accuracy, able to reveal key aspects of the causal and emergent properties that make up and sustain these structures.

Following Raley, it is evident the SR has dual implications, depending on which side of the scientific/philosophy divide is emphasised. SR can be understood as both

> realism about scientific *theories* and as realism about the *entities* these theories posit. Realism about theories is the view that the scientific theories we hold true describe the world the way it is. Realism about entities is the view that the entities posited by the theories we hold true, exist (Raley, 2007: 149).

Raley points out that the distinction between realists focusing on entities and those focusing on theories is under-represented in the SR literature; and that the possibility that 'these two types of realism can come apart is not made very explicit' (Ibid, ft. 12, 149). The two however, arguably need to be reinforced, because as Boyd argues,

> …when a well-confirmed scientific theory *appears* to describe unobservable 'theoretical entities', it is almost always appropriate to think of its 'theoretical terms' as *really* referring to real unobservable features of the world, *which exist independently of our theorizing about them*; and of which theory is probably approximately true (Boyd, 1991: 11 in Raley, 149).

With regard to entities, SR argues strongly 'for the existence of certain entities', committing itself to the existence of some entities and the non-existence of others (Raley, 151). SR is however to be distinguished from weaker arguments (e.g. like best explanation) which are epistemic criteria for entities that we believe should exist, rather than for what entities actually exist. SR therefore uses explanations that involve an ontological assumption; and as Joseph argues, this gives SR 'a strong ontological stance' (2006: 346).

In tackling theories, SR argues that theorists 'have good reason to regard our current best scientific theories as approximately true' (Milne, 2003: 281). Getting to this point – general agreements about the truth status of theories - however wasn't easy. For SR, it required dispensing with truth realism (thanks to Laudan), policy realism and quasi-realism, and arguing that the majority of classic and contemporary scientific theories have relied on the heavy lifting done by unobservable phenomena.[2] Unlike instrumental-empiricism whose goal is to promote the construction of hypotheses (not theory) that are

[2] Frederick Suppe was one of the earliest to cautioned that '[a]n adequate philosophy of science must embrace a 'hard-nosed' metaphysical and epistemological realism wherein *how* the world *is* plays a decisive role in the epistemic efforts and achievement of science' (1977: 716, in MacLennan, 312). The impact of Kuhn and particularly Lakatos is also tangible.

'generalizable across a wide range of human behaviour' and encourages both systemization and the search for regularities, SR avoids parsimonious model-building, and opts instead for theories which are capable of making real statements 'about real entities and processes, even unobserbable ones, which affect [both] natural and social phenomena' (MacDonald, 2003: 554).[3] The driving force of real entities and processes is of course both what makes them tick (causal mechanisms) and their peculiar attributes (emergent qualities), and SR treats both of these as though they operate as the engine of social and political structures.

Theories are capable of unveiling these structures, approaching them as real. Rather than ancillary appendages to wider hypotheses, theories in SR operate as vehicles of the ontologically quality contained in the entities to which they refer. As Wight clarifies, '[w]henever an entity at a particular level has been identified, described and used to explain some phenomenon, It itself then becomes something to be explained', taking on an ontological quality of its own (2006: 383). This places a heavy burden on the quality of theory-making, especially when SR is approached as a repository of enhanced conceptual rigour applicable to IR. SR theories don't need to generalise, or observe or predict. They **do** need to 'specify, describe and explain' the causal mechanisms and emergent qualities that cause and constitute social and political phenomena, and preferably argue **why** the mechanisms operating in a given structure 'are superior to those that fail to provide any mechanisms at all' (Ibid: 555) SR promotes accuracy and rigour, it is a meta-theoretical approach that defines a micro-foundational epistemology in other theories (e.g. rational choice at work in neo-functionalism).

It appears – although not always clearly – that RS affirms both an ontological and an epistemological realism (not merely the former). It does this separately however, as 'the ontological question of whether it exists is independent of the epistemological claims' (Wight, 2006: 384). Pavitt for example argues that like 'logical empiricism and perspectivism, scientific realism is grounded in a well-developed epistemology' (1999, 169). Joseph augments this by arguing that

[3] For Milne, a decent theory involves 'empirical adequacy, as evidence for their (approximate) truth' but more importantly, '[p]ossession of theoretical virtues'. Comprising the explanatory power of a given theory, its particular virtues include - according to Psillos - 'coherence with other established theories, consilience, completeness, unifying power, lack of ad hoc features and capacity to generate novel predictions' (Psillos in Milne, 2003: 281).

'scientific realism is notable for taking a strong ontological stance' (Joseph, 2006: 346). Bhaskar (1978), Harre & Madden (1975) respectively suggest the world around us possesses 'real objects with real attributes, capable of having real causal effects on one another', and that we in turn are 'capable of perceiving what these true attributes of objects are' (Pavitt, 1999:170). As a philosophical approach, SR therefore presumes that knowledge claims are entirely justified because we have good reason for those claims, and more broadly 'argues for the independent existence of reality, separate from our attempts to explain or understand it' (Joseph, 2006: 345).

SR's ontological sureness about unobservables however is a challenging one; it emerges from earlier uses of referential realism used by Putnam and Kripke, and entails a dual assumption. First, 'as one can never be sure one knows the true nature of an object [despite being convinced of its reality], one can never be sure one knows the full meaning of term referring to it' (Pavitt, 1999: 170). Wight furthers this, suggests that 'irrespective of the actual existence of the theoretical objectives, science can only be explained on the basis of the belief in the reality of the posited objects' (2006: 383).

The fusing of ontological realism with epistemological realism therefore takes place in SR with the second step, 'when a term is first used to refer to an object', becoming a label or designator fixed solely to that objective independent of the beliefs held by others about its attributes. SR goes even further, suggesting that 'the true meaning of the term is a function of the true nature of the object to which it refers'; our capability of perceiving true attributes – even in unobservable entities – allows us to simultaneously name and discern objects, to refer and infer, to describe and inscribe (Pavitt, 1999: 170). This is helpful because – as Harre pointed out - the world is full of concepts and entities that are unobservable (1986).

Over the past thirty years, SR theorists have assembled a pleasing series of realms, levels, strata etc by which we can progress from the observable world to unobservable phenomena (easing the adoption of SR to the social sciences in the process). Via these tiers, explanation proceeds commensurately from the physical world to the biological, to the psychological to the social, and ultimately unobservable. [4] Meshing observable entities with unobservable

[4] See Harre (1986) for his three realms, Bhaskar for his four levels, Joseph for an application of this to the agent-structure debate (2006).

phenomena and outcomes, the explanatory relevance for one level is deemed an adequate, relevant and indeed accurate method of explain the next.[5] The **conceptual conduits** between these levels include: their undoubted real existence, the *causal effects* which unobservable structures and processes have upon other objects; and the *emergent properties* of unobservable phenomena. Recent debates suggest that IR - with its own ream of unobservable phenomena – is particularly conducive to the meta-theoretical claims that SR can induce. SR presents IR with the chance to up the philosophical ante; permitting 'a philosophical argument concerning [both] the epistemological stance and ontological assumptions of the various theories and approaches', and giving analysts the chance to tackle in detail the ontological and epistemological their content and claims (Joseph, 2006: 346).

The challenge in applying this to the **EU is threefold**: accepting the ontological existence of the EU as an unobservable social structures; discerning its causal effects that produce and reproduce its underlying structures, examining the substance of its emergent properties in terms of its multi-actor identity, multi-level agency and multi-policy goals. More specifically – we must take into account both the **originating context** and **subsequent conditioning** by which a key group of Europeans entially and then instantially transformed into the socio-political collective of the EU, with consequences and characteristics that go beyond the individual, and possibly beyond the reality of the structure itself.

SR is helpful because it helps to determine the 'ontological status of the functional relationships' by which the EEC was initially constructed, and the 'proper theoretical relationships' by which to analyse the current causal and emergent processes of the contemporary EU entity (Pavitt, 1999: 177).[6] More broadly, SR sets up both an ontological bedrock by which to approach the EU as a reliably real entity, and an epistemological framework that permits a scientific approach to the EU entity and EU integration theories. What holds true for the sciences – qua SR – holds true for the social structure of the EU: in other words, on the basis of ontologically accepting the EU as real - we can

[5] The rejection of this strata by which the physical world opens explanatory portals for the social is of course the 'hermeneutic challenge', which refutes the existence of such a series and denies that any one level has much in common with any other. The worlds are incommensurate and requires not only 'fundamentally different forms of explanation', but accepts that social phenomena is adequately explained by language, culture, intentionality, cognition, etc (Pavitt, 1999: 176).

[6] SR theorists generally steer clear of the minefield of positivism (who can blame them with folks like Paul Tillich denouncing positivism as 'realism without self-transcendence faith').

systematically gather, and reflectively make use of both qualitative and quantitative data that federalism, functionalism, liberal intergovernmentalism and constructivism have now assembled (even if their ontological perspectives of the EU differ substantially), and not fear the absence of preset methodological criteria.

What is new? Simply put: cross-fertilising the ontological reality of the EU as an independent entity with EU integration theories that have not yet made that leap, with the possibility of prompting epistemological change in their design, testing and evaluation of the EU. SR therefore engages in a meta-theoretical tweaking of the EU as a structure, *and* the theories by which the EU is understood, and possibly reproduced. New views are on offer, in other words. Alternative explanations are made possible. If a method recognisable as 'scientific' emerges from the application of SR to the realm of EU studies, all well and good, but the main aim is simply to see which methods the EU itself by its very nature generates.[7] The ontology should lead naturally to a congruent epistemology; not the other way around. This may be the single greatest advantage of an SR approach: returning to first principles and escaping the fruitless chicken-egging of entity-theory sequences. SR provides a way of enlivening the debate by reaffirming the ontological, and reappraising the epistemological foundations of EU integration theory. Which of the four (or more) positions emerges as most conducive to the scientific endeavour remains to be seen, though at first blush, the (neo) neo-functionalist may be furthest ahead. One caveat exists, and that of course is that while SR's scope is universal (though not generalisable in behavioural terms), the ontological assumptions that SR favours may forcibly rein in, or even discard the ability of some integration theories to sufficiently approach the EU in a scientific way. The fit may not be easy: social constructivism for example will necessarily be ontologically circumscribed by SR in a that neo-functionalism is not, simply because the latter has a conflated view of reality's existence and the awareness we have of it. As Joseph has argued, while SR can be 'put to work on a range

[7] Again, this does not imply that as analysts, we will be favoured with any greater objectivity in our analysis; despite its existence of a more stringent ontological reality of social structures than CR, SR is emphatic that the fact-value phenomena still applies to scientists, who are largely embedded within the implicit values of the system under consideration. For federalism and functionalism in particular – both of with have tacit normative qualities – it is well nigh impossible deconstruct the EU from the values at the heart of its genesis. Yet both of these are further along in accepting the independent reality of the EU than are liberal integovernmentalism and constructivism. This suggests that a stringent ontological perspective (qua SR) is not necessarily at odds with a 'thicker' contextual perspectives in which values animate research, rather than abstracting from it.

of different theories', some work better than others, and in general 'unless we want o change what we understand by scientific realism, we cannot meaningfully speak of a scientific realist theory of international politics' (Joseph, 2006: 345). The same could arguably be said for an SR approach to the European Union.

Part II

Science and its transitions echo the transmutations of human history. The paradigms of the former represent the tipping points, or *kairos* – essentially 'a new historical occasion especially open to transcendent demands and promises' (MacLennan, 2001: 310). An especially salient *kairos* for Europe occurred in 1957, with the negotiation of the Treaty of Rome, in which post-Westphalian ideals were consciously espoused as the practical foundation of multilateralising the ownership of coal and steel. How – if at all - might this kairos, and its subsequent developments, relate to modern scientific realism? Again, the key point here is a meta-theoretical one. The point of the next section is not to assay various EU integration theories for their epistemological rigour or ontological complexity, or even to look at different causal mechanisms within the EU (interesting, but beyond the scope of this first draft); but rather to look at the various ways of approaching the study of the EU. Based on the assumptions given above, the following implications arise for studying the EU via the lenses of SR.

The Unobservable EU

Following the assertions laid out by Joseph, or earlier by McMullin, SR is concerned 'with the existence-implications of the theoretical entities of successful theories' (McMullin, 1984: 26). Assuming both neofunctionalism and federalism count as successful theories, we can proceed to look at the existence implications of the theorised EU.

Provision 1: That the entity of the EU exists.

We begin from the premise of accepting that the EU is a combination of observable and unobservable structures and processes, although an entity which prompts observable results. The SR-IR interface – applied to new areas like the EU is thus dependent upon theorists like Boyd who suggest that it is

appropriate to consider the 'theoretical terms' of a given entity like the EU as referring in reality to its real, but unobservable features (Boyd, 2007: 11). But is this convincing? The majority of SR literature is still heavily steeped in scientific unobservables, rather than entities posited in the theories of social sciences. We have to follow the footsteps of Jonathan, Wight and Kurki (2006) in assuming that we can legitimately cross-fertilise a scientific form with social content, and still assume that a) our theories still describe the world realistically and b) that the entities conceived in our theories do indeed exist.

I assume that meta-theoretical questions about the EU would take the following form:

- Can the EU be studied in a scientific manner?
- Do the major approaches of EU integration theory attempt (or claim) to engage in scientific analysis, and what do they mean by 'scientific', etc.
- How should EU integration theories best approach the scientific enterprise on offer in SR, and how will this stimulate new **design, testing and evaluation** in EU integration theory?

The central question appears to be twofold: what are the *ontological* consequences of the independently existing reality of the EU (and which EU theories tries to understand)? Second, *epistemologically*: what is the most suitable method by which to conduct scientific inquiry of the EU, and how can EU integration theories individually facilitate the valid pursuit of scientific knowledge (MacDonald, 2003: 551).

Problem: SR confronts us with the difficult task of having to identify social unobservables in the form of the EU: from macro-economic structures to micro-societal relations. Precisely *what* is unobservable about an entity like the EU? It is obviously is unlike typical scientific unobservables like an atoms, quarks etc. Considering as Douven and van Brakel suggest that 'we have no 'direct access'' to unobservable entities because they 'somehow go[] beyond the laws of the theory or theories we hold about them' (1995:4) - how will we know it when we don't see it? Much may be categorised as unobservable about the EU: particularly its emergent qualities as a multi-level system of governance, and some of its processes (an exercise in post-war conflict resolution) and even the nature of its structures (a market-based exercise in political union, an integration project with neighbourhood policies). There may

be observable phenomena however: aspects of its system of inter-locking institutions can be discerned, approached, rendered; elements of the *aquis* are visible in policy outcomes; policy outcomes themselves, the *fora* of EU institutions, officials, agents, national and Brussels-based decision-making are all discernable. The task of determining which bits of the EU are observable and which are unobservable is largely fruitless. SR advocates instead focusing upon the key unobservable by which we can not only move from the material to the ideational in the EU's development, but from the world of observable side-effects to unobservable entities, and their causes. In other words, to get to the heart of the causal mechanisms (both material and ideational) responsible for generating and reproducing the structure (and ultimately behaviour) of the EU, we need to approach its contextual parameters within which the original intentions were formed, and by which causes were first generated. The usual hodge-podge of rules, norms, discourses arises, but the greatest of these is norms. Norms are the conditional factors by which social life is first regulated, and then given meaning. The EU is more reliant than most social entities upon its foundation of norms. Its regulative norms act as a rule book; its substantive norms give it substance, content and direction.

Provision 2: That theories of EU integration can be held to be true and describe the EU in the way that it is.

No single EU integration theory can claim to be a universal theory of the political and social behaviour of the EU (even regionalism cannot be so widely applied). Yet the corpus of EU integration theory as a whole does imply a tacit promise to somehow unify its sundry subfields, with conclusions applicable for other regional entities. The presence of SR may at least provide the EU cohort with a unifying ontological structure; but the epistemological consequences are still bound to be widespread. Again however, the point of SR is not to generate the general, but rather to accelerate the accurate. EU integration theory could do with the latter; criticisms levelled against it are of manufacturing a body of work unrepresentative – even 'unrealistic' of the EU itself, its methods empirically awkward, its findings inconsequential.

Integration assists in defining the process of the EU's construction and (theoretical) deconstruction. Ernst Haas' original definition shows the dual political and social contours inherent in the practice integration, defined as the process

> …whereby political actors in several, distinct national settings are persuaded to shift their loyalties, expectations and political activities towards a new centre, whose institutions process or demand jurisdiction over the pre-existing national states (Haas, 1958: 16).

The social process implies the shifting of loyalties, which the political process entails 'negotiation and decision-making about the construction of new political institutions [over and] above the participating member states' (Diez and Wiener, 2003: 2). Diez and Wiener have gone some way to presenting EU integration theory as a spectrum of approaches in which the choice of theory dictates the subsequent treatment of the EU. They suggest that the corpus of EU theories can loosely be divided into two camps. Empiricist approaches to the EU construct theories as 'causal argument[s] of universal, transhistorical validity and nomothetic quality, which can be tested through the falsification of a series of hypotheses', following the work of King, Keohane and Verba (1994) and Przeworski and Teune (1982) (Ibid: 3). Here we can include the majority of functionalism, rational choice theory that girds much work in liberal intergovernmentalism, decision-making and policy networks, as well as legal approaches to integration. Other theories approach the EU more loosely, preferring to retain 'abstract reflection', contextuality, and identity, and includes federalism, governance and institutional development, new institutionalism, social constructivism, discursive approaches and gender perspectives.

Taken together, European integration theory is a 'field of systematic reflection on the *process* of intensifying political cooperation in Europe and the development of common political institutions, as well as on its *outcome*', including the 'changing constructions of identities and interests of social actors in the context of this process' (Diez and Wiener, 2003: 3). Diez and Wiener also suggest that EU integration theories have emerged along a chronological trajectory, in which explanatory, analytical and constructive phases explain the 'dominance of particular theoretical tendencies' (Ibid: 6).

As above, SR's purpose is to present the possibility of approaching the EU as a scientific enterprise, and the subsequent changes to the **design, testing and evaluation** currently used in EU integration theory. SR can look at the *context,*

conditioning and culmination of EU integration – neatly dividing its energies according to the same dual focus traditionally used by EU theories – that of process and outcome. The sum total of the EU's existence, the distinction between its past emergent properties as the EC and present properties as the EU, as well as its original and recurring causal mechanisms can all be examined.

Interestingly, the interpretivist element in EU studies tallies with the bridge-building effected by SR between empiricists and interpretivists. SR can make use of the conclusions drawn by Diez and Wiener that:

> 'pure' empirical knowledge of how [EU] institutions work is impossible and thus not very meaningful. It is *impossible* since the representation of empirical facts is always based on particular concerns, and assumptions about the nature of the EU and the finality of the integration process… 'Pure' empirical knowledge is *not very meaningful* in the sense that since any empirical representation is imbued with such assumptions, to concentrate on the 'facts' provides only a superficial understanding that disregards at least some of the political disputes 'underneath' the surface… analyzing integration is not only a 'technical' matter, but involves particular understandings and conceptualizations of integration and the EU, for which we need integration theory (Diez and Wiener, 2003: 4).

Arguably, if '[i]ntegration theory helps to highlight and problematize these concerns and assumptions', then SR is better placed to theorise the assumptions of integration theories to begin with. As contemporary television physician Dr House pithily puts it, 'our tests are right. But our initial assumptions are wrong'.

Provision 3: That SR, as an epistemological position contributes beneficially to a refining of EU integration theory.

What are the plausible targets for SR? There are four serious contenders: federalism, (neo) neo-functionalism, (neo) liberal intergovernmentalism, constructivism. Broadly, SR can evaluate the *originating causal mechanisms* at work in federalism and functionalism upon which the process of integration,

the entity and ultimately the current outcome of the EU was established; at *recurring causal mechanisms* in federalism and liberal intergovernmentalism by which the social and political process of EU integration continues to develop in both its state and institution agents. SR can also tackle the *emergent properties* of the EU structure (as an outcome of the process of integration) as found in more wide-ranging federalist accounts, some liberal intergovernmentalism, but principally in social constructivist accounts of the EU. (In the latter, the SR provides constructivism with a more stringent ontological perspective of the EU's independent existence.)

SR can also flag up the dual material and ideational ontologies at work in the heart of EU integration. It can do this along the lines of previous criticisms of Wendt's work (Joseph 2006 and Chernoff 2002), by deconstructing atomistic assumptions about material structures, rational behaviour, behaviour regularities, and predictable outcomes, and the generally 'reified social ontology that excludes underlying structures, causal mechanisms or constitutive processes' (Joseph, 2006: 349). And it can do so by greater use of the Marxist tradition, as briefly hinted at below.

3+1 benefits

Four specific areas of study also spring out, particularly where the process and outcome are so mutually constituted as to deny any clear sense of consequential development. The first three include the *nature of foreign policy decision-making within the EU, the development of citizenship within the EU and its related identity questions, and the normative content at work in both market and conflict management*. In all three areas, traditional state actors and new socialised, institutionalised agents interact to deepen the integrative effects of EU ideas into a self-standing structure. They have internal implications regarding the quality of the EU's own community (diplomatic, citizenship, market and security) and external consequences for the effective functioning of the EU as a regional actor (foreign policy, democratisation, neo-liberalisation and defence). While SR may have little to contribute in its non-generalist aims to foreign policy, it could certainly use its focus on theory accuracy to discern how the relatively new foreign policy 'co-ordination reflex' operates in Europe to prompt an entirely new method of re-orientating traditional concepts of sovereignty, territoriality, defence and power structures from individual units to a collective community.

The fourth is the content of **rational choice theory** (RCT) at work in both neofunctionalism and liberal intergovernmentalism. SR is best placed to wield its ontological and epistemological rigour with these two integration theories in particular. By way of a refresher: neofunctionalists, with their organic, incremental view of integration as a series of instrumental spillovers 'explain the move away from the anarchic state system and towards supranational institution-building by depicting particular societal and market patterns' that impel 'élite behaviour towards common market building' (Diez and Wiener, 2003: 8). Functional market spillover begets political union, inducing normative and ideational values into the original material structure. Intergovernmentalists disagree, arguing that an actor's choice to construct bespoke institutions rationally supports traditional state interests, whose cost-benefit evaluation suggests that they come off better 'in than out', in terms of absolute and relative gains. Institutions aren't the tools to an über-entity, they are the handmaids of national governments. SR can look at the causal, constitutive and emergent properties of the role of institutions, and more broadly the dual rational choice approaches used by national governments in building them.

As MacDonald has pointed out, SR provides a particularly helpful epistemological foundation by which to target RCT in general, and the specific role of RCT at work in two key EU integration theories. RCT is best known as an *aid-de-camp* for instrumentalism-empiricist approaches, a helpful but basic 'assumption that facilitates the development of clear, parsimonious, deductively coherent, and generalizable hypotheses' (MacDonald, 2003: 551). Within SR, RCT has a far deeper role, one that is actually congruent to the potential of SR within IR, namely to 'facilitate the construction of models that uncover the unobservable processes animating human social and political behaviour'.

Along with the **normative** building blocs by which social and political structures are built, comes the role of **decision-making** by which humans process their entirety of their goal-based actions, themselves the foundation of subsequent structures. RCT obviously vies with psychological and cognitive decision-making, but it has a longer history, a more rigorous application within EU studies, and is therefore a better interface point for SR than the latter two. (Indeed, sophisticated readings of RCT countenance a wider, more liberal

interpretation of 'rational', which can include contextual, conditioned, even cultural motives). RCT's internal touchstones of purposive action, consistent preferences and utility maximization are also more practically (if not empirically) conducive to the endeavour of SR to drill down into molecular makeup of social structures like the EU, as well as practically appropriate for the refined design of theories like neo-functionalism and intergovernmentalism, who use RCT.

Figure 1.0

Theory	**Ontology**	**Epistemology**	**Role in EU integration theory**
Federalism	State-based: but combining material and ideational,	Top down, socio-political focus on the *process* and the *outcome* of integration.	Explaining integration
(Neo) neo-Functionalism	Public and private actors, material, subsequently incorporating material-ideational capable of generating supra-state structures.	Bottom up, **social** focus, socio-economic, then political integration. Focus on *process* of integration, not *outcome* of political system. Rational actor assumptions.	Explaining integration
Liberal intergovernmentalism	Realist/materialist: state based. Empiricist	**Political** focus, political integration. Focus on *process* of integration, not *outcome* of political system. Some attention to behaviour, as internal part of the process, rather than a feature of the entity itself. Rational actor assumptions.	Analysing governance
Constructivism	Ideational: context based.	Discursive, context-bound focus on the identities and interests of actors, and the quality of EU 'actorness' as a *outcome* of EU integration.	Constructing the EU

For SR, the main point is that while the social sciences cannot have prescribed methodological criteria by which to discover and make knowledge claims about the world, our studies of social entities like the EU can be 'scientific' with regard to how they systematically gather, and reflectively make use of evidence, allied with alternative explanations. The endlessly complex nature of the EU itself is a decent microcosm for the ensuing levels of complexity encountered in the social world: which for SR suggests that the nature of social objects generally actually directs, or impels us to find and apply the appropriate methodology; rather than attempting to apply a given scientific approach *a*

priori. All four of the major approaches to the EU are excellent examples of ex ante, rather than ex post theorising of an entity that belies *a priori* methodologies.

Provision 4: That the referential realism at the heart of SR plays to the EU's favour.

If we believe that 'the true meaning of the term is a function of the true nature of the object to which it refers' independent of other beliefs about the entity, it allows us to accept that we may not know the full meaning of the term 'European Union' or indeed the true nature of the object of the EU at the time of its first referring. This is quite accurate; there was (and is) a paucity of practitioners and analysts who could – during the first naming of the EU in the early 1990s – accurately understand with any baseline knowledge what a European union entailed, either ontologically or epistemologically. Yet today, this referential flexibility allows us to refer to the same object in the same way regardless of disagreement about its attributes. Indeed, there is now a fairly uniform method of practical reference *to* the EU; but this has not prevented increasing disagreement over its particular characteristics (e.g. market, political, social and security). It appears that the challenge of defining an unobservable entity of governance is not a hindrance for the EU; Hacking suggests that 'the language game of naming hypothetical entities can occasionally work well even if no real thing is being named' (Hacking, 1983: 87). Many would agree that the heart of the EU's legitimacy deficit, as well as some of its Constitution fallout, can be traced to the sense that EU referents still appear to many as 'no real thing'.[8]

We can expand these assumptions further, as Pavitt does, by suggesting that 'objects by their very nature have powers that allow them to affect other objects in various ways' (172). This is based not on full-blown Humean causation but rather on the constant conjunction of events, phenomena and processes generated by the entity (e.g. enlargement/citizenship, the European Monetary Union/the euro), and even more simply – upon the mere 'description

[8] Digging deeper, just as language has accommodated SR's move from hard to social science, so it may widen the role of referential realism at the heart of SR. Cummiskey for example suggests that matters in SR 'is the increasingly accurate 'accommodation of language to the causal structure of the world' (1992:39), rather than a strict regulation of the reference of terms.

of the underlying structures and processes that account or the causal properties of objects' (Ibid).

Other IR perspectives would probably agree. But these do come adrift from conservative SR interpretations who insist that we cannot escape from meta-induction by rely on future developments (i.e. future science), however likely they may seem; but instead assume that 'our *current* theories give an approximately correct picture of the world' (Douven and van Brakel, 1995: 6).

Provision 5: That Marxism operates as a helpful method by which to analyse SR and the early EEC.

Marxism – as Joseph has demonstrated – is fertile ground for the likes of SR (2006). It is also an interesting perspective by which to examine the EC's development, and the ontological and epistemological claims made by functionalism and federalism.

The latent mechanistic qualities make Marxism an easy target for early prophets like Tillich, who happily takes aim at 'the evil 'trinity' of natural science, technology, and capitalism', decrying the atomistic nature of capitalist society.[9] Nevertheless, prophets from Smith onwards have made plain a useful and reproducible link between political and economic structures from which the present EU traces its roots. Whether as a market-place ideal, a globalised political economy or project of conflict prevention, there is a keen sense that the majority of political systems are constituted, even conditioned by their proximate economic systems. The EU is founded on the deliberate interweaving of political and economic structures; supranational ownership of coal and steel began as a method of spreading political obligation and economic responsibility. What remains under analysed are the causal conditions of that first link.

At the ontological level however, SR benefits hugely from Marxism, by virtue of the latter's ability to merge material and ideational approaches. SR's reliance on ontological verisimilitude requires its structures to exist independent of self-constituting action (and our theorising of them). What then would an SR-Marxism interface contribute to federalism and functionalism?

[9] Tillich interestingly took issue with philosophies of science which rendered 'a human group analyzable after the fashion of natural science into pure individuals – the atoms of society – which are held together by economic purposes and needs – the natural laws of capitalist society' (1956: 43).

Briefly, Marxism hovers somewhere on the nature-society overlap which SR too haunts. The original industrial structure of post-war Europe relied heavily on kick-starting the 'brute economic relation[s]' necessary for material, industrial Europe to get back into production. The concept of market place however by 1951 – the days of the coal and steel treaty, and 1957 – of the European Economic Community – was widened to incorporate both material and socio-political forces of production and which did not stand independently 'of the social relations that organise them', then or now (Joseph 2006: 351). Wendt and many others have perhaps done IR something of a disservice with their reductionist, even determinist view of materialism. Joseph has provided an admirable remedy which could easily be picked up into SR-EU interfaces with functionalism and federalism, by emphasising that 'the mode of production contains social relations inseparable from political, cultural and ideational factors' (Ibid: 352). What is needed is a more precise approach to the causal powers of EC market forces embedded in social projects like integration and political projects, either top-down federalist initiatives or bottom-up functionalist ones. The subsequent emergent properties of the various iterations of the EEC, EC and EU could thereby be more carefully discerned in terms of its founding, and subsequent socio-economic relations.

Provision 6: That key aspects of CR and SR may not overlap sufficiently to allow a dual-pronged analysis of EU integration theories.

Despite the disciplinary differences in the heritage of SR and CR, it should be acknowledged that there are significant overlaps. Both argue that the objects of science do 'really' exist; that there exist deep ontological layers of reality which are capable of translation into theories. Both counter the suggestion that the social sciences should necessarily dedicate themselves to obtaining observable regularities, or law-like generalisations. Most helpfully for examining the EU: both argue that **social objects** (always widely defined as norms, values, ideas, reasons, beliefs, discourses and structures themselves) are emphatically unobservable, and as such, the theorising of the unobservable is a legitimate and necessary pursuit.

Rather than studying the explicit behaviour of the EU or its constituent parts (as is attempted in FPA), searching for regularities or generalisable qualities, SR/CR approaches begin further back: examining not the produced symptoms, but the generators, the underlying causes of the structures in the first place.

What causes a group of individuals to embark on a project to create a given structure, which then over time, produces these behaviours? What are the key contours of this project (e.g. federal or functional) for it to produce a given set of institutions, goals, and ultimately behaviours? Again: rather than regularities and predications (and indeed the hunt for general, over-arching theory), SR and CR focus instead on understanding the originating causal conditions, interactions and interests. This is accomplished via a meta-physical approach to social structures, allowing us to judge not only the originating ontology of the entity under consideration, but appraise the philosophical merits of a given epistemological view (RCT, liberal intergovernmentalism etc).

CR however is at odds with the epistemological commitments of SR regarding the social context of agents. Following Bhaskar's Transformational Model of Social Action, CR goes far further down the structuration path than SR can readily countenance, particularly the more conservative interpretations of SR (Joseph et a). Bhaskar's three-fold conception of social structures therefore requires a radically more meta-theoretical perspective for it to work within the aegis of SR:

- It is clear that social structures, including both EU Member States, EU institutions and the EU multi-level governance entity DO in fact exist independently of the activities that they govern (1998: 39). Here, SR's strict insistence on the ontological existence of entities as real independent of our theorising, and their self-constituting activities comes to the fore (and reveals a marked difference between SR and CR). This is to be distinguished from processes like democratisation which are visibly reliant, dependent upon the self-constituting activities (agency) of its internal agents.
- Again, the EU and its appendages **does** exist independently of the agents' conceptions and activities toward the entity. What is interesting is that this is an emergent ontology: following the agent-structure approach – entities obtain a reality of their own, independent of the activities and perceptions of their constituent parts, but over time. There's good evidence to suggest that the EC was hugely reliant upon the long-term, incremental, organic process of functionalism to accrue its form, and the legitimacy of its content. The EU however, is a fully-fledged entity, legally-grounded, politically developed, economically fulsome, culturally deep entity which clearly ticks over as a social

structure at both micro and macro levels in a way that is independent of its human agency, and in some ways, independent of its Member State agents.
- Following on from the second point, social structures are indeed relatively enduring; but this very endurance endows them with an ontological depth and a degree of teleological infiniteness that is difficult to quantify.

Conclusion

In sum, every aspect of the EU is real, and constitutes an ontologically emergent level of reality which we are capable of theorising. SR does not necessarily tell us which IR or EU integration theory has the best epistemological arsenal by which to do this, only which philosophical arguments appear most salient in any given approach.

SR refines, rather than widens the permutations of EU integration theories, winnowing away some to reveal which others are best suited to the endeavour of approaching observable and unobservable structures and processes as eminently theorizable entities. As above, SR functions as a refining template for the improvement of theories using the baseline of scientific endeavour, in which conceptual coherence and accuracy, rather than empirically-gained and testable data is the watchword. The revelation of key, unobservables aspects of social and political structures is what counts.

Why use SR? Simply because SR-IR or SR-EU cross-fertilisations make 'a seemingly realistic and convincing appeal to mechanisms that theorists believe are actually in operation when human beings act', from norm building to decision-making to bargaining (MacDonald, 2003: 555). Whether they do this purposively to maximize utility over a set of preferences, rank their goals according to normative content, or are motivated by tradition or functional habit, is up to the particular theory to discern. Our job is simply 'one of determining which is the best explanation' (Wight, 2006: 387).

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