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Foam architecture: managing co-isolated associations

Christian Borch

Abstract

This article analyses Peter Sloterdijk's grand trilogy on spheres which re-conceptualizes our being-together and its spatial conditions. After a brief outline of the main objectives of sphereology, I analyse the notion of foam which, Sloterdijk argues, should replace the concept of society. I here explore the sociological theories that form the backdrop to Sloterdijk's idea of foam sociality, in particular Gabriel Tarde's monadological sociology of imitation but also the vitalist impulse that is central to the immunology of the foam theory, and which Sloterdijk inherits from Hermann Broch. The following section examines one of the important contributions of the foam theory, namely, its explicit engagement with architecture. In the final part, I offer a foam-theoretical interpretation of environmental crime prevention. This case study brings together foam theory, immunology and the focus on architecture.

Keywords: architecture; crime prevention; foam sociality; immunity; management; Peter Sloterdijk; spheres; Gabriel Tarde.

In 2004, the German philosopher Peter Sloterdijk completed his grandiose trilogy on spheres, *Sphären I–III*. The sphere project presents a highly original and most inventive attempt to rethink and re-conceptualize our being-together, its history and its spatial conditions. Due to its scale, covering a total of nearly 2,600 richly illustrated pages, and the creative (some might say obscure) vocabulary that Sloterdijk constructs, the sphere trilogy has not obtained much commentary outside Germany, although a growing international interest is

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visible. Spanish and French translations have recently appeared, and the project has received very laudatory comments from scholars such as Bruno Latour (2004), Henk Oosterling (2007) and Sjoerd van Tuinen (2006, 2007b). Unfortunately, however, no English translation of *Sphären* is planned (for English articles relating to the sphere project, though, see Sloterdijk, 2005b, 2008).

The aim of this article is, first, to present and discuss Sloterdijk's sphere project, specifically his sociological notion of foam, and, second, to demonstrate its potential in a specific case, namely, crime prevention through architectural design. The first part of the paper presents a very brief overview of the key objectives of 'sphereology', focusing mainly on the first two books in the trilogy, which cover bubbles and globes respectively. In the following sections I discuss the third and most sociological volume. It is here that Sloterdijk develops the notion of foam, which is conceived as an alternative to the concept of society. Foam is defined by Sloterdijk as co-isolated associations, a notion of sociality that he elaborates in a dialogue with theoretical currents that have received much attention in recent years, not least the work of Gabriel Tarde. In the second part of the paper I discuss this Tardean influence but also examine the inspiration Sloterdijk draws from the Austrian novelist, philosopher and crowd theorist, Hermann Broch. I argue that Sloterdijk's interest in Broch reveals a vitalist impulse and that this impulse is detectable in Sloterdijk's emphasis on immunity production, a theme which is integral to the theory of foam. In the third part of the paper I explore one of the significant contributions of the foam theory, namely, its explicit engagement with architecture. I discuss Sloterdijk's reflections on architecture and relate them to the study of atmospheres. Further, I claim that Sloterdijk's foam vocabulary reflects recent architectural tendencies. Finally, in the fourth part, I present a sphereological interpretation of programmes for the management of crime through environmental design. This case study brings together foam theory, immunology and architecture and indicates how Sloterdijk's work might supplement Foucauldian research.

A final introductory remark regards the disciplinary focus of the paper. Engagements with Sloterdijk's work often take place within a mainly philosophical horizon. This applies, for instance, to the recent and important work by van Tuinen (2006, 2007b). Sloterdijk is, of course, a philosopher, but by focusing on foam my aim is nonetheless to provide a sociological contextualization of his sphereology and to bring it into dialogue with more standard (or mundane) sociological debates and issues, such as the question of crime control. It is my hope that this sociological framing will create a greater resonance for the sphere theory (for a similar endeavour, see Wagner, 2006).

Spheres, bubbles, globes

Sloterdijk's impressive sphereology is one great plea for putting spatiality at the top of the theoretical agenda. It asks and attempts to answer the question of

'where' in new ways. Sloterdijk is of course not alone in this pursuit of a theoretical engagement with the spatial aspects of human life. In an interview from 2005, he refers to Deleuze and Guattari as well as to Foucault as earlier forerunners who argued that the acknowledgement of temporality should be followed by an equal appreciation of spatiality (Sloterdijk in Funcke, 2005). More recently, scholars such as Edward W. Soja (1989) have argued for a 'spatial turn' in social theory and it is this spatial awareness which Sloterdijk endorses in *Sphären* – which, he notes, could just as well have been entitled *Sein und Raum* [Being and space], had we not been living in an era where some branches of social theory consider ontological arguments dubious (1998, p. 345, 2004b, p. 16).

Sloterdijk's fundamental question is: where are we when we are in the world? The answer, simply put, is that we are in spheres. A sphere 'is the inside-like, accessed, shared circle [*Runde*] that humans inhabit to the extent that they succeed in becoming human beings' (1998, p. 28). The trilogy is constructed as a fascinating journey that demonstrates the underlying (semi-Heideggerian) assertion that 'the being-in-spheres constitutes the basic condition of humans' (1998, p. 46).[1] Spheres provide the people who live in them with an essential communion (they breathe the same air, share the same ideas, etc.), but they also supply them with a protective membrane that produces an immunity, however fragile, to the extra-spherical world. Life is therefore based on the building of spheres that protect us, give us meaning, but which may also be endangered. The latter feature is due to the flexible structure of spheres; they are expansible but may equally burst or implode.

Exploring the spherical conditions of life is the aim of Sloterdijk's grand phenomenology, which undertakes to rewrite human history, encompassing anything from the most intimate spheres to globalization.[2] This exploration is unfolded in three volumes. The first volume, which is subtitled 'micro-sphereology', is an investigation of bubbles; the second examines the history of globes and is subtitled 'macro-sphereology'; the third deals with foams (all the plural forms are deliberate) and this book presents a meso-level analysis that is subtitled 'plural sphereology'. Below I outline some basic elements of the first two books so as to provide the background to the foam analysis which will receive its own treatment in the following sections.

Sphären I: Blasen (1998) launches a comprehensive attack on individualism and the primacy attributed to singular subjectivities. Against this idea, Sloterdijk presents a phenomenology of micro-spheres and argues that the primeval entity, the 'base molecule', is the 'dual bubble', a metaphor he uses to describe the 'dyadic space of resonance between people as we find it in symbiotic relations' (1998, pp. 63, 68; Sloterdijk in Funcke, 2005). What is common to these bubbles is that the couple is always primary to the individual. Indeed, any sphere is based on co-subjectivity. The symbiotic relations analysed by Sloterdijk are of very different sorts. The most basic and intimate one is that between placenta and foetus (1998, ch. 4). However, he also illustrates the notion of dyadic bubbles in an examination of mesmerism,

somnambulism and hypnosis. This allows him to illustrate the bubble concept in a way that links up with the current interest in Gabriel Tarde's sociology of suggestive imitation (e.g. Blackman, 2007). What is central to mesmerism, somnambulism and hypnotism, which are all formed around the magnetizer–magnetized figure, is that they describe 'a temporary, closed bipolar bubble in which a unique common subjectivity is distributed as resonance among two partners' (1998, p. 261). If one accepts Tarde's (1962) argument that society is based on somnambulistic imitation, Sloterdijk, in fact, goes on to propose that any social relation is formed as a co-subjective, micro-spherical bubble. Or, to be more precise, since the notion of bubbles refers only to bipolar spheres of resonance, it accounts for only a specific sub-group of sociality. In more general terms, Tarde and Sloterdijk would agree, sociality is better characterized as multiple co-subjectivity, a spherical resonance for which Sloterdijk reserves the notion of foam (see below).

Having examined the micro-spherical intimacy of bubbling co-subjectivity, Sloterdijk proceeds, in *Sphären II: Globen* (1999), to focus on macro-spherical thought-figures such as balls and globes. This results in an original analysis that covers geometrical, morphological and cosmological images on the one hand and an alternative history of political globalization on the other. Briefly put, Sloterdijk (1999, p. 79) describes how in ancient Greece the ball, the *spharia*, not only attracted attention as an interesting geometrical or morphological figure in its own right but equally came to signify the cosmological totality. This association was retained by subsequent theology, most significantly summarized in the assertion in the late Middle Ages that God is 'the infinite sphere whose centre is everywhere and whose circumference is nowhere' (1999, p. 538). From the sixteenth century onward, however, the work of Copernicus, Bruno, Kepler, etc., demonstrated that the old cosmological world-view was flawed, which resulted in a growing disbelief in the theological cosmology. So, Sloterdijk argues, when Nietzsche announced the death of God, this was in a sense an anachronistic assertion; it was another formula for the breakdown of the theological cosmology. Yet it was also a phrase that denoted the enormous consequences of this breakdown: '"God is dead" – in truth this means that the sphere is dead, the retaining circle has been burst open, the magical immunisation afforded by classical ontotheology has ceased to have any effect' (1999, p. 588). That is, the immunity granted by the theological cosmology has collapsed.

According to Sloterdijk, ancient cosmological thinking of spheres, and its subsequent theological adaptations, constituted the first of several phases of globalization, a phase that observed the universe through the image of an absolute globe.[3] In the present phase, characterized by global telecommunication and satellite surveillance, the globe has practically imploded and has ceased to be the leading spherical thought-figure. Although it receives a lot of attention in media discourse, in politics and the academia, the globe (and its associated global and globalized forms) fails, for Sloterdijk, to account adequately for our present being-together. This is not to suggest that spheres

as such have become obsolete. However, with the implosion of the One Globe, our current age is better described as a plurality of minor spherical worlds, a condition for which Sloterdijk reserves the notion of *foam*. So, rather than analysing contemporary developments as related to globalization, he prefers to see them as 'foamed': 'In foam worlds, the individual bubbles are not absorbed into a single, integrated hyper-sphere, as in the metaphysical notion of world, but drawn together to form irregular bulges' (1998, p. 72). *Sphären III: Schäume* (2004a) examines this present foam sociality.

Foam sociality

The foam analysis attempts to set a new agenda for social theory and to provide it with a new vocabulary. In fact, this final volume of the trilogy seeks to carry out a 'transformation of sociology into a general theory of "air conditioning"' or atmospheres (Sloterdijk in Funcke, 2005). As a physical substance, foam is characterized by mixing very different substances: gas and a liquid or solid material. This composition makes foam 'a mongrel of matter' (2004a, p. 29), hinting at Sloterdijk's interest in foam as a metaphor. Referring mainly to its liquid versions (the cover illustration of *Sphären III* depicts a lather), foam signifies a fragile structure that can easily collapse. But the physical substance of foam has additional qualities that Sloterdijk finds theoretically illuminating. Foam has several chambers or cells that are separated from one another by thin walls, implying that the various cells are subject to a state of co-fragility; foam is generally disordered and has no centre; and it is characterized by spontaneous generation (2004a, pp. 48–52).

Against this background, Sloterdijk develops a theory of social foams. As a social form, foam is defined by Sloterdijk as 'co-isolated associations' of bubbles (2004a, p. 302, see also pp. 56, 255). This means that, similarly to its physical counterpart, social foam is composed of singular cells (micro-spheres of dyadic or multi-polar resonances) that are related to one another through 'reciprocal isolations, separations and immunizations' (2004a, p. 56). Each micro-spherical bubble constitutes a world of its own or, as Sloterdijk puts it, a 'household' (2004a, p. 55), and it is the association of these households that makes up the social foam. In the vocabulary of Niklas Luhmann's (1997) systems theory one could say that every cell is operationally closed (each creating its own reality) but structurally coupled to its neighbouring cells.[4] If the walls separating the cells are broken down, the former micro-spheres cease to exist. This understanding of foam sociality leads Sloterdijk to redefine familiar sociological notions of society. Society, he argues, should designate neither a 'mono-spherical container' (as, for instance, Durkheim asserted) nor a 'non-spatial communication process' (as systems theory claims); rather, society is better seen as

> an aggregate of micro-spheres (couples, households, companies, associations) of different formats that are adjacent to one another like individual bubbles in a mound of foam and are structured one layer over/under the other, without really being accessible to or separable from one another.
>
> (Sloterdijk, 2004a, p. 59)

It is important to note that the critique of singular subjectivity and individuality, which was developed in *Sphären I*, still applies. The foam cells do not consist of abstract individuals but rather of dyadic or multi-polar, neo-monadic structures (2004a, p. 61). The monadological reference is an effect of Sloterdijk's engagement with Gabriel Tarde's monadic sociology. Tarde plays a crucial role for the foam theory, which, as Sloterdijk admits, has an 'unconcealed neo-monadological outlook' (2004a, p. 61). Indeed, among the sociologists that figure in *Sphären*, Tarde has the most entries in the index (and more than Durkheim, Marx and Weber combined). The Tardean influence is explicit throughout the work. First of all, Sloterdijk explains the relation between the foam cells in a Tardean manner. Referring to Tarde's *Laws of Imitation* (1962), he asserts that the relations and interactions between co-isolated cells are not to be understood as communication but instead as *imitation*, supported in modern society by the mass media (2004a, p. 60, 2004b, p. 19). Tarde argues that imitation creates a social bond because the one who imitates thereby approaches the one who is imitated. This is what happens between cells in social foam. Due to the separating walls, there is no direct exchange between the cells; yet a mutual influence exists through 'mimetic infiltration', i.e. through contagious rays of imitation that tend to create a social bond of similarity or assimilation between neighbouring cells (Sloterdijk, 2004a, p. 61; see also Tarde, 1962, ch. 3). Neighbouring cells need not be neighbours in a physical sense. Since imitation is, as Tarde says, a 'generation at a distance' (1962, p. 34):

> 'Neighbours' now refers to the users of analogous immunization strategies, of identical patterns of creativity, of related arts of survival; meaning that most 'neighbours' live far apart and resemble one another only in terms of imitative infections (which are now termed 'trans-cultural exchange').
>
> (Sloterdijk, 2004a, p. 259)

The quote touches on the problem of immunity which was briefly addressed in the above discussion of globes and which points beyond the Tardean influence. Thus, Sloterdijk (2004a, p. 252) argues, the immunity problematic is not to be found in Tarde's work on imitation, or, for that matter, in other (more standard) sociological theories from Marx to Luhmann. It is integral, however, to the theory of social foams, which is at the same time a theory of the need for immunity production. The membrane of any cell produces immunity for its interior life, however fragile this protection may be. This is the case both materially and socially. For example, welfare states are ideally socio-mental

immune systems that protect their citizens against (the effects of) unemployment, illness, lacking education, etc.

This relates to one of the foam theory's most original suggestions: that immunity is related to air conditioning. Sloterdijk argues that the awareness of life's dependence on specific air conditions became clear throughout the twentieth century, as it was struck by several 'airquakes' (2004a, p. 89). In Sloterdijk's account, the first of these airquakes can be dated very accurately. It took place at the battle of Ypres on 22 April 1915, when the German army attacked the French forces with poison gas. This attack did more than instigate chemical warfare; it generated a transformation in warfare as such where it was no longer the adversary soldiers' bodies that were targeted but the enemy's environment (2004a, p. 93). Sloterdijk draws a straight line from this transformation and the fear it produced to contemporary terrorism which, he claims, seeks to hit individuals by attacking their environment, their conditions of living (2004a, p. 105; see also 2004c, p. 103; Tuinen, 2006). But he explores too how the importance of air conditions was gradually recognized in cultural life and more recently through the climate control systems of shopping malls and office buildings.

Sloterdijk claims that, within aesthetic and cultural theory, one of the most significant acknowledgements of the vitality of the atmospheric conditions of human life goes back to 1936, more specifically to Elias Canetti's speech at the fiftieth birthday celebrations of his colleague and friend, Hermann Broch. Canetti here celebrated Broch for his extraordinary sense of his time and fellow beings, and his capacity to take it all in atmospherically, namely, as a matter of breathing (Canetti, 1981) – and it is this atmospheric interpretation of Broch that Sloterdijk finds fascinating. For example, Broch's (Weber-like) thesis on the disintegration of values, which is central to his philosophy of history, and which was presented in literary form in his grand trilogy, *The Sleepwalkers* (1996), amounts to a 'disintegration of the atmosphere' where people no longer breathe the same air (Canetti, 1981, p. 22). Canetti further remarked that today the air we breathe can be poisoned (1981, p. 24). This, says Sloterdijk, points beyond the context of chemical warfare. For, as Broch showed in his *Massenwahntheorie* (1979), air poisoning may also be directed against a state's own citizens in the form of media propaganda. According to Broch, this is what happens when demagogic leaders capitalize on the disintegration of values, for this disintegration leaves the individual without any value orientation. As a result the individual enters a state of panic which produces a need for a so-called 'super-satisfaction' (Broch, 1979, p. 56; see also Borch, 2008). Demagogic leaders may provide this super-satisfaction through media propaganda, hence engaging themselves in symbolic chemical warfare, which, Broch warns, is likely to end in totalitarian mass aberration where the super-satisfaction is achieved through the annihilation of specific 'others'. In Sloterdijk's summarizing words: 'Life in the media state resembles a sojourn in a palace filled with gas, animated by the poisons of themed events' (2004a, p. 187).

It should be clear from this that, in Sloterdijk's terms, Broch's *Massenwahntheorie* is a study of atmospheric politics. It is an investigation of how atmospheres disintegrate and expose themselves to manipulation, but it is also a study of how a totalitarian politics of atmospheres can be avoided. This makes Sloterdijk assert that, while the scientific endeavours related to chemical warfare ('the science of toxic clouds') constituted the first new science representative of the twentieth century, Broch's *Massenwahntheorie* and its focus on socio-mental poisoning was the second new, distinctive science of that century (Sloterdijk, 2004a, p. 100).

From a foam theoretical point of view, Sloterdijk's interest in Broch is important for at least three reasons. First, Broch presents a notable link to Gabriel Tarde. Both *The Sleepwalkers* and the *Massenwahntheorie* are preoccupied with states of trance and hypnosis that are similar to what Tarde describes with his notion of somnambulistic imitation (Sloterdijk, 2004a, p. 189; on Tarde and Broch, see also Borch, 2006, 2008). The significance Sloterdijk attributes to Broch, in other words, emphasizes the importance he ascribes to Tardean analyses of (mass-mediated) imitation dynamics between foam cells. Second, since Broch was fearful of the potentially totalitarian effects of media propaganda and therefore developed a political superstructure to his *Massenwahntheorie* that aimed to fight totalitarian mass aberration, he presented, argues Sloterdijk, the first 'atmospheric ethics', i.e. the first attempt to formulate ethical standards for the use of our common air conditions and hence also for our co-isolated, co-fragile foam sociality (2004a, p. 190). Broch's ethical programme is founded on a value theory which asserts that the absolute value is life and that the absolute non-value is constituted by death. From this follows, states Broch, that any threat against life (real or symbolic) is an unethical act and, conversely, that ethical conduct amounts to supporting and fostering life and to warding off death in life. Translated into his political ethics, this means that those irrational aberrations should be fought which present individuals or groups of individuals as evil 'others' to be annihilated. In the same vein, Broch emphasizes what he calls the 'earthly absolute', namely the 'absolute condemnation of human enslavement' (1979, p. 472). This is the cornerstone of his ethics, which politically becomes a call for preventing anti-humane propaganda and for establishing legal rights and duties for our being-together.

The presentation of these ethical considerations is deliberately brief here, as I will discuss the ethical dimension and how it may be elaborated sphereologically in more detail in the case study of environmental crime prevention to follow below. However, the value theory and its ethical programme share an important impulse, which is the final reason why Sloterdijk's interest in Broch is crucial. Thus, I argue, although Sloterdijk gives no explicit indication of this, Broch's work has had a profound impact on the sphereology at a most crucial level, namely, in respect to its immunological basis.

As mentioned above, foam cells are fragile entities; life and sociality depend on immune systems and immunity strategies. This is the ontological condition

of all human foam. Now, is this a mere assumption or is it backed up in some way? Sloterdijk offers a historical–discursive explanation of the all-pervasiveness of immunity concerns (2004a, pp. 193ff.). Ever since Jakob von Uexküll introduced the notion of the 'environment' in biology in 1909, immunity has been acknowledged as a concern for any system. Due to the co-existence of system and environment any system (any foam cell) is exposed to an active engagement with border maintenance and hence with maintaining immunity to the environment. Suggestive as this might be, I believe that the immunology of the foam theory is founded on a deeper, non-discursive vitalist impulse.[5] It thus seems to me that Sloterdijk's immunology reflects an attempt to come to terms with that fear of death which was central to Broch but also to Canetti. For Canetti death signified the 'sole fact' that all life struggles against, and his entire work can be interpreted as his own effort to wrestle with death (1981, p. 17). Broch, on his side, based his *Massenwahntheorie* on the assertion that the ego is possessed by a fundamental 'urge of life' (1979, p. 46) which makes it develop strategies to overcome the fear of death. In her essay on Broch, Hannah Arendt observes that this 'anxiety about death' was typical not only of Broch but indeed 'characteristic of the war generation' (1970, p. 126) of which he and Canetti were part. It is this anxiety, I claim, which reappears in Sloterdijk's immunological reflections: the need for immunity is an urge to ward off death. Establishing this link between the fear of death and immunity systems explains, in addition, the bias that is detectable in Sloterdijk's selection of airquakes. He is mainly concerned with events which, like gas poisoning, aim to kill or subjugate people, and less interested in analysing minor airquakes, i.e. everyday examples of how our air conditions are influenced in less radical ways.

I want to return to the neo-monadological anchoring of the foam theory. In one of the most important reflections on the theoretical foundation of the foam concept, Sloterdijk (2004a, pp. 294ff.) takes as his starting point an observation from Simmel's renowned excursus on the possibility of society. According to Simmel, it is a social *a priori* that 'every element of a group is not only a societal part but, in addition, *something else*', implying that 'life is not entirely social' (1971, pp. 12, 14, emphasis added). While Sloterdijk believes that this is a crucial observation, which dismisses the idea that the individual subject is the fundamental entity of society, he thinks that its full ramifications are not developed by Simmel himself. Instead, he suggests, these may be explored via Tarde's work. In his essay on *Monadologie et sociologie* Tarde famously argues that '*everything is a society*' (1999, p. 58, emphasis in original). By generalizing the notion of society to apply even to cells and atoms, Tarde's assertion entirely undermines the idea that society is founded on the individual subject (see also Latour, 2002). So '[i]f human individuals participate in an extra-societal dimension, then, from Tarde's viewpoint, they do so because they are themselves the results of pre-personal associations, cell and particle societies that are all subject to their own intrinsic compositional modalities' (Sloterdijk, 2004a, pp. 297–8).

One may argue that this supports Sloterdijk's own focus on foam sociality and bubbles of resonance spaces since here, too, emphasis is on pre-personal associations. Just as importantly, however, Tarde's theory of the associations of minor entities endows foam theory with an additional capacity that Sloterdijk finds extremely valuable. It does not suffer from the 'spatial blindness' which, in Sloterdijk's opinion, is otherwise common to most sociological theories (2004a, p. 298).[6] On the contrary, Tarde's monadology suggests that societies or associations are 'scales calling for space' that can be adequately described only 'thanks to an analysis of expansion, a topology, a dimensional theory and a "network" analysis' (2004a, p. 298).[7] Sloterdijk refers in this context to a passage in *Monadologie et sociologie* where Tarde speculates on the possibility of building cities not merely as horizontal structures but equally as vertical ones. The paragraph reads:

> It is hardly meaningful to explain why this is impossible. A nation that is as high as it is wide would exceed the atmosphere many times over, and the crust of the earth can scarcely provide sufficient solid matter for the titanic structures such as vertical urban development would require.
>
> (Tarde, 1999, p. 61)

According to Sloterdijk, this quote is 'one of the rare cases in the social sciences in which human agglomerations are interpreted with a sideways glance at the static, structural and atmospheric conditions of human coexistence in space' (2004a, p. 300).[8] Sloterdijk notes that Tarde's speculations were later elaborated and given architectural form in some utopian projects during the twentieth century, for instance in Arata Isozaki's 1962 metabolic proposal for a 'City in the Air'. This reference to architectural matters, and how they link to the theory of foam sociality, is the subject of the next section.

Foam architecture

One of the great accomplishments of Sloterdijk is his explicit engagements with architecture and architectural ideas which are successfully incorporated in the sphere project, in particular in the second and third volumes of *Sphären*. I emphasize this because, despite the spatial turn in social theory, architecture remains a rather unexplored topic in much social theory. To be sure, valuable investigations do exist of architects and their practices (e.g. Stevens, 1998; Yaneva, 2005), as well as of how political ideologies and identities are represented architecturally (e.g. Delanty & Jones, 2002; Jones, 2006). Likewise, anthropologists and human geographers have elucidated crucial aspects of architecture in modern, pre-modern and postmodern societies (e.g. Rabinow, 1989), just as Deleuze-inspired work in particular has presented new ways to investigate the relations between architecture and the social (e.g. Ballantyne, 2007; Cache, 1995; Rajchman, 1998). However, in spite of these examples, in

many sociological accounts architecture continues to be a blind spot and a lot of work is still needed on what status and role architecture assumes in the social more generally. Sloterdijk deserves credit for making such a contribution. In the following I shall explore a few of his innovative suggestions.

The entire second part of *Sphären III* is devoted to an investigation of 'foam architectures' (2004a, pp. 501ff.). Among other things, this part contains interesting analyses of dwellings which, for Sloterdijk, are the decisive physical 'explicitations' [*Explikations*], as he calls them, of contemporary living (a quality no longer attributable to arcades as suggested by Walter Benjamin). From the point of view of foam theory, a residence constitutes 'a spatial immune system': 'Residence is, immunologically speaking, a defensive measure designed to demarcate a sphere of well-being from invaders and other agents of unwellness' (2004a, p. 535; see too 2004c, p. 103).[9] Constructing a residence is, in other words, a 'preventive measure' (2004a, p. 534) that establishes a physical border between the protected interior and the potentially dangerous exterior. This material protection enables the resident to sleep safely at night, Sloterdijk says; for homeless people a similar protection is maintained with cardboard-boxes (2004a, p. 543).

While this immunological understanding might be said to echo classical anthropological findings, Sloterdijk presents original analyses of how, in the twentieth century, various suggestions emerged on how this architectural immunity could be best achieved. He is interested in this respect in Le Corbusier's idea that 'the house is a machine for living in' (1986, p. 4), and argues that this notion of the house machine prepared the way for new flexible architectures that dissolved the connection between a house and its stationary place-specificity – thereby also giving immune systems a more plastic character (Sloterdijk, 2004a, p. 546). Specifically, Sloterdijk is deeply fascinated by the work of the American designer, architect and philosopher, Richard Buckminster Fuller, who developed anti-monumental mobile buildings that were adaptable to various air conditions. The aim of such buildings, which could easily be packed and unpacked on a new location, was to evoke an alternative to the city, its lifestyles and dangers (Sloterdijk, 2004a, p. 556). The underlying immunological intuition was clear: the walls of these houses might not be as stable and protective as those of stationary houses but this was compensated for by much greater mobility, and hence by options for preemptive escape. Buckminster Fuller's portable houses were never realized on a grand scale, except perhaps for the mobile homes that are primarily used for holidays or the easily-removable tin accommodations in the Third World (2004a, pp. 559, 566). However, the immunological uses of plastic architectural design have nevertheless entered strategies for urban planning, as will be clear in the following section on crime prevention.

Sociological theory is full of accounts of the individualization that allegedly comes with modern society. According to Sloterdijk, the emancipation of the individual is mirrored architecturally in the modern apartment which, contrary to the family house, is the cell that is best adapted to the life of

singles. He defines the apartment as an 'atomic or elemental ego-spheric shape – and thus as the cellular world bubble from whose mass repetition the individualistic foams arise' (2004a, p. 569). Whether it appears in multi-unit high-rise buildings or in smaller low-rise structures, the apartment block is foam architecture *par excellence*:

> The tenement block (or the *unité d'habitation*) comprises a social spatial crystal or a rigid body of foam in which a multiplicity of units are stacked above and next to one another – meaning that these shapes share with unstable foams the principle of co-isolation, meaning spatial separation by shared walls.
>
> (2004a, pp. 576–7)

Sloterdijk observes that the physical separation may not offer complete immunity to the neighbours. At least compared to detached houses, apartment blocks often suffer from problems of lacking acoustic immunity which might lead to problems of 'stress of coexistence' (2004a, p. 577). The sociality pertinent to apartments is not only one between singular units. The individual apartments also constitute interior resonance spaces. In a fascinating foam-Foucauldian analysis, Sloterdijk thus shows how the apartment functions as a 'workshop of self-relationships' (2004a, p. 587). The modern single may live alone, but nevertheless accomplishes a 'self-coupling (uni-binarity)' which compensates in various ways for the missing second person (2004a, p. 587).

Sloterdijk provides fascinating analyses of other architectural constructions, e.g. sports stadiums and convention centres, as well as of cities and architectural technologies that support political assemblages.[10] Many of these analyses have a diagnostic character. For example, Sloterdijk is interested in convention centres because they, for him, reflect a society that stresses the import of meetings (2004a, p. 648). In more general terms, the analyses of foam architecture are part of Sloterdijk's underlying atmospheric project which is 'to give a new account of the history of atmospheres, and in my view, the apartment and the sports stadium are important primarily as atmospheric installations' (Sloterdijk in Funcke, 2005). That is, these architectures expose how we currently manage the atmospheric conditions of our being-together.

Interestingly, however, Sloterdijk's foam vocabulary itself echoes recent architectural tendencies. I am thinking here not only of the now famous National Swimming Centre, which PTW Architects has designed for the Beijing 2008 Olympic Games, and whose surface resembles soap bubbles. Nor do I refer merely to the fact that the definition of foam as 'co-isolated associations' is inspired by the American architectural group Morphosis and their idea of so-called 'connected isolations' (Sloterdijk, 2004a, p. 255). More importantly, since the early 1990s new digital technologies have stimulated architectural designs that assume curved and organic foam-like shapes. This development has been promoted by architects such as Greg Lynn who invented the notion of 'blob architecture' to account for these new bulging forms. Although blob has a specific technical meaning, referring to a computer-generated 'binary large object' or to 'isomorphic polysurfaces'

(Lynn, 1999, p. 30), blob architecture is often associated with any curved and foam-like, bubbling design.[11] It is worth taking the technical understanding of the term seriously since it displays very nicely how close the thoughts of the architectural blob movement are to the ideas revealed in Sloterdijk's foam theory. For example, in his seminal book on *Animate Form*, Lynn (1999, p. 15) explains how deeply this kind of architectural design is impacted upon by monadological thinking. This is further emphasized in his description of 'composite assemblages' of blobs:

> With isomorphic polysurfaces, 'meta-clay,' 'meta-ball,' or 'blob' models, the geometric objects are defined as monadlike primitives with internal forces of attraction and mass. A blob is defined with a center, a surface area, a mass relative to other objects, and a field of influence. The field of influence defines a relational zone within which the blob will fuse with, or be infected by, other blobs. When two or more linked blob objects are proximate they will either (1) mutually redefine their respective surfaces based on their particular gravitational properties or (2) actually fuse into one contagious surface defined by the interactions of their respective centers and zones of inflection and fusion.
>
> (Lynn, 1999, p. 30)

The quote refers to topological structures that form the backdrop to Lynn's specific architectural designs, but the similarities with Sloterdijk's sociological foam theory are easily seen. The blob in Lynn resembles the individual bubble or cell in Sloterdijk which, in the social composite, partakes in the foam; both blob and bubble are monadological entities; and their mutual relations are characterized by infection, surface tensions and co-fragility or, if the separating surfaces are not maintained, by melting into one single blob or bubble.

I mentioned above that some Deleuze-inspired work has been conducted on architecture and the social, and this link to Deleuze is particularly apparent in the field of computer-generated architecture where folding is a much used technique. Again Lynn (1999, 2004) is an illustrative example, but the Deleuze connection is also visible in the work of Ali Rahim (2006). One aspect of this Deleuze inspiration is a focus on motion and virtuality. In Rahim's work the interest in virtuality 'produces what [he calls] *formations* – projects that incorporate feedback from their users and environments, continuing to change even after they are built' (2006, p. 5, emphasis in original). I emphasize this kind of work because it suggests a new phase in the history of atmospheres, a phase in which architecture need not (just) provide a stable physical membrane but is open to some degree of modification or adaptation, according to what takes place outside the membrane. Since this interactive phase is still in its beginnings, I will not discuss it any further here. Instead I will end this discussion by focusing on a different atmospheric aspect of foam architecture. This aspect is less concerned with the external environment and more with one might call the internal atmospheres of architecture.

The German philosopher Gernot Böhme has argued that all architecture produces specific atmospheres, i.e. 'tunes spaces' (*gestimmte Raüme*) or

'spatially discharged, quasi-objective feelings' (2006, p. 16; see also 1995). These atmospheres are the result not least of the odours, lights, sounds and colours which are part of the architectural staging. Odours are especially important. In a discussion of the atmosphere of cities, for example, Böhme notes that '[t]he odours are a crucial element of a city's atmosphere, perhaps even the most crucial one, for odours are atmospheric to a greater degree than other sensual phenomena' (2006, p. 128). The atmospheric import of odours has also been emphasized by Teresa Brennan who asserts that 'smell (in this case unconscious olfaction) is critical in how we "feel the atmosphere"' (2004, p. 9). Drawing on neurological studies of entrainment and pheromones, Brennan demonstrates that the affective feeling of the atmosphere can be transmitted from one person to others. This means that the atmosphere of architecture cannot be reduced to individual perception but is also an affective state that is subject to contagious transmission (see also Thrift, 2007b, p. 222).

I stress this work on architectural (affective) atmospheres for two reasons. First, it is pertinent to the discussion of how foam cells relate to one another in that it adds an important atmospheric dimension to the Tardean conception of rays of imitation. Incorporating the work of Böhme and Brennan in Sloterdijk's Tardean foam theory thus suggests that foam architecture is not only endowed with specific air conditions (odours, light, etc.), but these air conditions produce affective states in the foam which can be transmitted from one bubble to others. This, second, points to the import of foam management through the political organization of architectural atmospheres. It suggests in short that foam architecture is not only about immunity concerns; just as important seem to be the strategies that are employed to govern atmospheres and hence foam cells and their mutual relations. Such strategies are discussed in the following section where I apply Sloterdijk's theory of social foam to a specific case (not analysed by Sloterdijk himself), the preventive management of crime through urban architectural design.

Crime prevention as architectural foam management

The management of crime through environmental design and architectural planning has a long history. This approach to crime prevention has been examined systematically since the 1970s. One of the pioneering studies in the field is American architect and urban planner Oscar Newman's *Defensible Space: Crime Prevention through Urban Design* (1972). In the following I centre my discussion on this book which is paradigmatic for the idea that crime can be prevented through environmental design. It ought to be mentioned, though, that Newman's book was in fact preconfigured by the work of Jane Jacobs and Elizabeth Wood, and that, since Newman first presented his vision, there has been much debate on defensible space and its likely outcomes. In spite of criticism (e.g. Mayhew, 1979) the strategy has been further elaborated over the years. Defensible space is still considered an attractive approach and therefore

applied in practical crime prevention programmes in many countries (Pease, 1997, p. 973).

Newman's book was published at a time when existing (in particular therapeutic) measures to handle crime were deemed inadequate. In this context the notion of defensible space suggested entirely new ways to cope with the increasing urban crime rates that were common to many Western countries in the 1960s. Newman's starting point was the alleged demise of community structures that had taken place in modernity. The anonymity characteristic of modern metropolitan areas was, he claimed, part of the reason why crime rates were rising. If a new sense of community could only be reinstated, criminal activity would be easier to prevent. Thus he argued: 'Means must be found for bringing neighbors together, if only for the limited purpose of ensuring survival of their collective milieu. Where the physical design of the living environment can be used for this purpose, it must be so exploited' (1972, p. 2). From the view point of foam theory this statement is remarkable for its explicit recognition of the importance of the physical environment and for its implicit acknowledgement that, despite the physical separation of apartments, the inhabitants live in a state of co-fragility or we-immunity – the protection of one apartment is related to the protection of others and of the common air conditions more generally. Thus crime is directly embedded in a discussion of immunity, for criminal behaviour is an attack on the immunity systems of specific foam cells. In the case of burglary this takes a very concrete form, as it amounts to an intrusion of the foam membrane. And, if the membrane is threatened, the cell as such is endangered. The intrusion is not simply a physical occurrence but at the same time a psycho-social matter. As Sloterdijk puts it, '[a]n architecturally successful residential unit not only represents the air-filled space within, but specifically a psycho-social immune system that can regulate the degree to which it is sealed off from the outside world as it requires' (2004a, p. 578). Newman argues along similar lines. If the streets are (believed to be) full of criminal activity, then '[t]he last frontier on this urban battlefield may be the apartment door' (1973, p. 16), meaning that an intrusion of this barrier designates the end to the individual's final spot of security. The psycho-social consequences of intrusion have been emphasized by criminological research as well. In a British study of the effects of burglary upon victims, Maguire found that the 'most common persisting effects were a general feeling of unease or insecurity and a tendency to keep thinking about the burglary' (1982, p. 126). And what worried the victims was not merely monetary loses but much more the emotional impact that followed from the intrusion. That is, the feeling that the foam bubble and its immunity could burst generated significant concerns.

Newman claims that, in order to arrive at a new approach to crime prevention, 'the time has come to go back to first principles, to reexamine human habitat as it has evolved' (1972, p. 2). One important thing to learn from early human settlements, he believes, is that their dwellings were

territorially defined (for a related analysis of town walls, see Sloterdijk, 1999, pp. 264ff.). This idea must be adapted to modern dwellings as well. Specifically, Newman suggests a strategy that protects an apartment block from criminal activity by creating a foam sociality that transcends the singular apartments. What is needed is a social and material sphere which is clearly felt by inhabitants and strangers alike, and which is sensed and observed so intensely that 'a criminal can be deterred from even contemplating entry' (1972, p. 3). In the words of Newman, '*Defensible space* is a model for residential environments which inhibits crime by creating the physical expression of a social fabric that defends itself' (1972, p. 3, emphasis in original). Put differently, defensible space is a strategy that takes as its theoretical starting-point two sphereological ideas: first, that our being-together requires a physical–spatial imprint and, second, that our immunity (Newman would say 'security') is a matter of air conditions or atmospheres, in this context the living environment and its design. 'The desire for a living environment over which one has personal control is part and parcel of the desire for a life which one controls', Newman concludes (1972, p. 19).

Before looking at the specific techniques that Newman proposes for the creation of defensible spaces, one important question needs answering: how does social foam operate in an undefended space? We saw in the discussion of Sloterdijk's Tardean legacy that he describes the relation between foam cells as one of contagious imitation. Newman proposes an analogous argument. If the tenants in one plan of a greater housing project have a fear of crime, then 'a contagion of fear [can easily spread] across all areas' (1973, p. 92; for an early equivalent observation of this, see Park, 1967, p. 45). Since, conversely, a sense of security would spread contagiously if tenants felt safe in their project plan, defensible space is (equally) a strategy to shape patterns of affective imitation. And since, Newman believes, the environmental design impinges on the imitation dynamics – '[c]ontagion of fear is a function of the scale of a project and the relation of buildings to one another' (1973, p. 95) – defensible space is a model for architectural foam management.

How, then, to design defensible spaces? Newman presents a number of specific measures. He argues, for instance, that private realms should be extended by subdividing the public spaces outside private apartment units 'so that larger dominions come under the sphere of influence and responsibility of the apartment dweller' (1972, p. 52). Such physical–spherical subdivisions – say, through street design, benches or planting that mark clearly defined territories – are believed to create local ownership and deter criminals from entering. In addition, natural surveillance should be improved through lighting, access paths, strategic location of windows, etc. Common to all Newman's suggestions is the ambition to regulate co-isolated associations in ways that support the local we-immunity, particularly in metropolitan high-rise blocks.

The rationality of government inherent in Newman's strategies to prevent crime and the fear of crime places atmospheres and their affective states

centrally. Indeed, applied defensible space designs can be seen as practical 'explicitations' of the idea that social foam has a spatial–architectural dimension to it, that foam architectures express specific affective atmospheres and that these affects can be transmitted contagiously among foam cells. In line with this rationality one may describe Newman's programme as one that acknowledges, and seeks to manage, the air conditions which, for Sloterdijk, are fundamental to our being-together. One might also go beyond Newman's explicit recommendations and observe defensible space as a strategy which potentially opens up for a regulation of the ways that, for example, odours, colours and sounds affect foam sociality, thereby emphasizing the points of the Böhme and Brennan discussion (see also de Jong & Schuilenburg, 2005).

It should be clear from this that Newman's model combines immunity concerns with the political management of atmospheres. An analytical engagement with the defensible space strategy therefore contributes to that history of atmospheres which Sloterdijk urges us to write. I will even argue that actual defensible space designs are 'atmospheric installations' to the same extent as apartments and sports stadiums; they merely have a different field of application. While the apartment is an individualistic installation, and the sports stadium operates as an extraordinary 'collector' installation (Sloterdijk, 2004a, pp. 626ff.), defensible spaces are installations that aim to regulate ordinary, everyday interactions in public. Furthermore, Sloterdijk asserts that the major reason why the apartment and the sports stadium count as atmospheric installations is that they 'play a central role in the development of abundance, which defines the open secret of the modern' (in Funcke, 2005). This view on modern luxury might also explain the diagnostic pertinence of defensible space, although this is not so much about demonstrating abundance as an 'explicitation' of the wish to protect it.

I have indicated how crime prevention through environmental design amounts to a particular kind of foam architecture, i.e. an attempt to manage co-isolated associations. I will now proceed by discussing the desirability of foam management as well as its practical possibilities. The desirability of foam management addresses the ethico-political dimension that I touched upon in the discussion of Sloterdijk's interest in Hermann Broch. It is beyond the scope of this article to develop a comprehensive (atmo-)spheric ethics; a few suggestions must suffice. First, Broch's fundamental notion of the 'earthly absolute' must be reinterpreted sphereologically. A 'spherical absolute' is not merely about respecting human individuals; it is about respecting and supporting foams of bubbling resonances as well as their atmospheric conditions. In the same vein, the vitalism inherent in Broch's and Sloterdijk's work suggests that foam as such should be endorsed. Foam sociality is life and hence an actual negation of death that is worth celebrating. Politically this points towards a non-regulation of foam that differs from Newman's proposal. While Newman subscribes to a hybrid programme of communitarian (reviving communities) and liberal ('personal control') concerns, Sloterdijk seems to

favour a more liberal-vitalist approach where foams should be allowed to emerge and develop freely and where the unregulated spontaneity of foam sociality is not lamented but celebrated.

Contrary to this free-bubbling foam sociality and its ethico-political programme of non-government, Sloterdijk finds Broch's *Massenwahntheorie* important precisely because of the limits it sets to spherical conduct. There need not be a great inconsistency here; Broch's major concern is how to prevent totalitarian aberrations and this is an effort with which Sloterdijk of course agrees. Still, a tension is visible between celebrating foam vitalism on the one hand and emphasizing immunity on the other, and this tension reappears in the context of environmental crime prevention. Put differently, from an ethico-political point of view the foam theory oscillates between proposing non-regulation of foam and stressing the need for protective measures (e.g. as crime prevention). The latter aspect suggests that some sort of foam management is desirable, namely when foam is threatened. What does this mean for the assessment of environmental crime prevention? It means that crime prevention as foam protection is important but also that the preventive techniques should not be an obstacle to the formation of new foams. In this regard Newman's programme seems too interfering; it seeks to regulate any environmental aspect that impinges on foam sociality and leaves little to spontaneous generations. In the same vein, one might claim that Newman's programme has a paranoid side to it, as it neglects the possibility that benign encounters and friendly co-isolations could emerge which transcend the physical demarcations of the singular blocks.

Having discussed the desirability of foam management I now turn to what might be considered the more fundamental question, namely, whether spheres, specifically foam, can be managed at all. Is environmental design, whatever its objectives may be, possible in the sense that it is likely to achieve its desired effects? Sloterdijk is ambiguous on this point. At one point he maintains that 'foams tend to be ungovernable structures with a tendency for morphological anarchy' (1998, p. 74). This argument receives some support from the spontaneous generation characteristic of foam as a physical substance. Contrary to this position, which focuses on the actual limits to foam management, Sloterdijk also suggests that foam can in fact be managed. After all foam only *tends* to be ungovernable, and several examples make clear that it can be shaped: from the extremities of poison gas to air designs that regulate affective states, for instance by modifying the atmosphere of a shopping mall so as to tie the customers affectively to the specific locality as well as to the goods for sale (Sloterdijk, 2004a, p. 178).

Still, as the singular cells operate according to their own principles, it is difficult to foresee what will be the actual effects of regulating the air conditions. In this respect Sloterdijk's foam theory is similar to Foucauldian research. It offers tools to make critical sense of the various *programmes* that are being unfolded to govern life, whereas the concrete outcomes of this management are for other approaches to assess. Crucially, however, Sloterdijk's

(Tardean) foam theory is able to address explicitly some issues that receive too little (or at least no systematic) attention in Foucault's work. As Nigel Thrift (2007a, p. 55) for instance has argued, Foucault's interest in spatiality remains undeveloped, and the attempts by later Foucauldian scholars to substantiate the spatial dimension have tended to emphasize order, thereby accentuating just one of many aspects of spatiality (and ignoring perhaps the uncontrolled, vitalist spontaneity of foams). In foam theory space is no appendage but the very starting point, that which conditions our being-together and which therefore requires attention in any analysis of programmes for the conduct of conduct. Further, according to Thrift (2007a), affect and things are two other blind spots in Foucault. Here, too, foam theory is more apt, as its Tardean orientation allows for taking explicitly into account both contagious imitations of affect and architecture as thing. These qualities provide foam theory with analytical powers that supplement Foucauldian observations in interesting and significant ways. For example, foam theory suggests that power and politics could be analysed as a matter of climate control, i.e. as the government of air conditions, which can then be studied inclusive of their integral architectural and affective dimensions (Latour, 2004; see also Oosterling, 2007).

Conclusion

I have argued in this paper that Sloterdijk's sphereology is part of a recent theoretical current which attributes major importance to spatiality. The way in which sphere theory approaches spatiality is, however, very distinctive. This is visible both in Sloterdijk's original vocabulary and in the specific assumptions and analyses he presents. Some might find sphereological terminology obscure and it certainly is different. This is deliberate. Since we observe the world through concepts, a new view can be provided only if a novel vocabulary is established. Yet the unusual metaphors that Sloterdijk proposes also have a specific political function. This is something Sloterdijk emphasizes at the very end of the third volume where he presents an entertaining hypothetical conversation between three persons, a macro-historian, a literary critic and a theologian, who, while waiting for the author of the sphereology, discuss the usefulness of the books. Here the literary critic makes the interesting point that one immediate advantage of notions such as foam and bubbles is that they are not likely to be appropriated for ideological use, contrary to the concepts of recognition or risk (2004a, p. 866). It is hard to imagine that politicians struggle to create new foams, whereas they gladly fight over who deserves to be recognized. This does not make foam theory, or sphereology in general, politically impotent. Its potentials are just to be found elsewhere, not least as a theoretical tool that 'explicitates' the regulation of atmospheres.

That said, as with any theoretical framework, the sphereology can be the object of various points of critique. On a conceptual plane, Sloterdijk oscillates

rather freely between metaphorical and 'factual' uses of the foam notion, as, for instance, when he associates propaganda with gas poisoning. This is in a sense the very charm of the project and what enables Sloterdijk to establish surprising connections. Yet those who have a strong preference for conceptual meticulousness may feel dissatisfied with this approach. On a theoretical level, one might wonder why Sloterdijk is mainly interested in immunity strategies that protect the cells against the external world, whereas possible internal impurities are left unexplored. But how do cells maintain immunity to self-generated dangers? Another critical point regards the allegedly pervasive importance of immunity concerns. One might argue that this omnipresence remains for empirical analysis to ascertain. This touches upon a more general problem, which Nigel Thrift (2008, p. 134) has called attention to, namely that some of Sloterdijk's analyses tend to ignore empirical work that may contradict his observations. Additional critiques could be launched. However, in this paper I have been less interested in searching for possible weaknesses of the foam theory and more keen on trying to investigate its analytical potential. To conclude, whether or not one subscribes immediately to Sloterdijk's sphere theory, it deserves not to be dismissed straightaway, but rather to have its potential explored. Such exploration is likely to provide social theory with new insights into our conditions of being-together.

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Notes

1 I will not discuss Sloterdijk's inspiration from Heidegger in this article. See, for this purpose, Thrift (2007b, p. 234) and Tuinen (2007a).

2 In spite of the impressive field of topics that are covered by sphereology, Sloterdijk stresses that his aim is not to explain everything. The sphere theory is 'no universal theory, but rather a detailed form of space interpretation' (2004b, p. 18).

3 Sloterdijk has developed his theory of globalization further in the 2005 book entitled *Im Weltinnenraum des Kapitals* (Sloterdijk, 2005a; for a recent discussion, see Noordegraaf-Eelens & Schinkel, 2007).

4 The reference to systems theory is intended here only for illuminating purposes, as Sloterdijk's relation to Luhmann is ambivalent. On the one hand, Sloterdijk's sphereology is thick with formulations that allude to a systemic terminology. For instance, bubbles are described by Sloterdijk as 'self-referentially structured micro-continents' (2004a, p. 59), explicitly emphasizing the notion of self-reference which is central to Luhmann's theory. Further, Sloterdijk has great respect for Luhmann; he celebrates him as an eminent theorist (2000, 2007a, ch. 1) and sees a greater

compatibility with Luhmann's programme than, say, with Habermas' normative theory. On the other hand, however, Sloterdijk's ambition to pay close attention to the spatial aspects of sociality leads him to find Luhmann's work insufficient, and for good reason since spatiality is indeed excluded from the communicative focus of systems theory (Sloterdijk, 2004a, p. 252). See also Tuinen (2007b) who briefly touches upon the relation between Sloterdijk and Luhmann.

5 On such vitalist impulses, see also Éric Alliez' interview with Sloterdijk (Alliez, 2007, p. 318).

6 Clearly, Sloterdijk is painting with a broad brush here, ignoring, for instance, the early Chicago School which, in addition to studying the city and urban space sociologically, subscribed to an ecological approach. This human ecology, devoted to the study of 'the spatial and temporal relations of human beings as affected by the selective, distributive, and accommodative forces of the environment' (McKenzie, 1967, pp. 63–4), might be seen as an important forerunner to Sloterdijk's eco-spherical concerns. However, one crucial difference between foam theory and the work of the Chicago sociologists regards the monadological foundation of the former which, in spite of Robert E. Park's Tardean inspiration, is not prevalent in the latter.

7 'Network' is in quotation marks because Sloterdijk wants to distinguish his foam theory from network theory as it usually appears in the social sciences. He objects to the network metaphor in its common adaptations, that it is based on an 'excessively reductive geometry. Instead of emphasizing the intrinsic spatial properties of the communicating actors to be related to one another, the image of the network intimates the notion of expanded points that are connected qua interfaces for lines – a universe for data trawlers and anorectics' (2004a, p. 257). For this reason the only kind of networks that Sloterdijk finds conceptually useful are foam networks of co-isolated associations. These do not suffer from the 'radically a-spatial' character of the usual network notions, as the metaphor of foam refers to the spatial extension of the individual cells (2004b, p. 21).

8 Tarde developed this idea further in his literary production. In the novel *Underground Man*, he described the aftermath to a future devastating crisis where a few lucky survivors are forced to create and explore a world beneath the surface of the earth, thereby exposing themselves to new atmospheric conditions (Tarde, 1905).

9 Or, as Sloterdijk puts it elsewhere, '[a]t the center of [the foam] volume is an immunological theory of architecture, because I maintain that houses are built immune systems' (Sloterdijk in Funcke, 2005).

10 The latter theme is also examined in Sloterdijk's proposal for a pneumatic parliament; see Sloterdijk and Haegen (2005). For additional reflections on cities and architecture, see Sloterdijk (2007b).

11 To be sure, such designs also occurred prior to the advent of new digital technologies. One forerunner was the British Archigram group that experimented with organic forms in the 1960s. Interestingly, the Archigram architects were influenced in part by Buckminster Fuller. It is therefore possible to draw a Buckminster Fuller–Archigram–blob architecture line which, although not 'explicitated' by Sloterdijk, points to an increasing attention to tangible (and virtual) foam-like structures in contemporary architectural design.

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