

9. Narrative Ecosystems

A Multidisciplinary Approach to Media Worlds¹

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Abstract

This chapter presents the model of “narrative ecosystems”, examining their specific features: they are inhabited by narrative forms, characters, and viewers that get modified through space and time; they are interconnected structures; they tend to reach and maintain a certain degree of equilibrium (stability, balance), orchestrating a persistent world that persists beyond the small screen and that modifies itself in dynamic ways according to developmental paradigms often unforeseen; they are non-procedural systems, not determined by a syntagmatic sequence of functions, but by declarative elements that describe the reference environment, making the narrative material a narrative universe that might be traveled over by the user in unprecedented ways; they are formed by an abiotic component (the media environment) and by a biotic component (the narrative forms). Inhabiting a narrative ecosystem is a distributed and diversified experience that generates participation. Traditional tools for the narrative analysis (semiotics, narratology, etc.) are no longer suitable for such new serial forms. Other disciplines, such as information architecture may offer useful interpretative tools.

Keywords: Narrative Ecosystems, Vast Narratives, Resilience, Narrative Prediction, Contemporary Television

Introduction

This paper aims to propose an original approach to the investigation of vast audiovisual narratives, namely TV series, according to a new theoretical perspective that we label the “narrative ecosystem”. With the term “vast

narratives”, we refer, in the first place, to contemporary US TV shows that, according to Noah Wardrip-Fruin and Pat Harrigan, are characterized by the need to maintain an “ongoing structure with narrative consistency and thematic coherence throughout large numbers of episodes and sometimes seasons” (2009, 4). Our proposal is to study vast narratives through the narrative ecosystem paradigm, a model that encompasses a cross-disciplinary approach to TV studies. In the past 20 years, TV serial dramas, particularly those from the US, have enjoyed great success among viewers worldwide and have stimulated considerable critical attention from media scholars.

It is evident today that traditional narrative formulas have gone through a process of mutation and hybridization, gaining strong elements of temporal progression and narrative development that were missing in previous formulas. Therefore, contemporary TV resists the risk of narrative atrophy by creating a diegetic world in which changes at all levels—of the characters, scenes, and narrative techniques—are continuously sought, as well as valued and celebrated, by fans. TV series have anomalous features as far as their narrative progression is concerned: they are “abnormal” objects, which overflow in time and space. They last for many years and are, moreover, able to branch out across different media, as per the model of transmedia storytelling (Jenkins 2006), thereby generating other texts in different media environments. This capacity to overflow across the media landscape is the result of a mutation: we are dealing with objects that are no longer self-conclusive and finished texts, but instead have become long-lasting transmedia phenomena. We are referring, in particular, to the fact that TV series have become very elaborate as far as their transmedia extensions are concerned. In this respect, transmedia extensions may, of course, “broaden the timeline of the aired material, as happens when we rely on comics to fill in back story or play out the long term ramifications of the depicted events (see for example the use of animation in the build-up to *The Dark Knight* or *The Matrix Reloaded*)” (Jenkins 2009). But, more than this, they also require a strong investment of time and energy in order to collect all the spread narrative pieces and to assemble them into a meaningful whole. Finally, contemporary TV series are also long-lasting phenomena by virtue of all the possibilities offered by new modes of production, distribution, and consumption, as has happened in cases such as *The Killing* and *Arrested Development*, shows cancelled by their networks and later revived by Netflix.

We propose a new interpretative model: the narrative ecosystem. We believe this is a response to the need for a dynamic model that represents

vast narratives, accounting for the interactions of agents, changes, and evolutions. Production and management studies intertwined with cultural studies (Johnson 2013) are already going in the direction we support. Our theoretical proposal thus aims to encompass this approach with a diachronic view of the media objects as well as with a method to predict the evolution of a specific TV show. This last goal still needs work and effort in order to figure out a predictive model that might be useful to the media industry. In this paper, in order to address this absence, we have started to draw together some theoretical observations based on ecological selection and evolution patterns, which we present below.

Something Borrowed, Something New...

What makes contemporary TV serial narratives so innovative and engaging for the viewer? First of all, contemporary TV series offer viewers an entire universe rather than a single story. Consider, for instance, what happened with *Heroes* and with the ARG (Alternate Reality Game) *Heroes 360° Experience*, or with the *Lost Experience*—an ARG played by fans during the second season of *Lost* in the UK, and in the interval between the end of the second season and the beginning of the third in the US. These are clear examples of an extension of the series' narrative along several digital (but also physical) platforms (see: Evans 2011; Clarke 2013).

Contemporary TV series' narratives no longer have a single center of irradiation but, rather, tend to develop along different roads; therefore, the traditional tools of narrative analysis, which once considered the story as having an oriented and targeted (if complex and labyrinthine)² direction, are no longer able to give a full account of new forms of TV series narration. Indeed, compared to traditional concepts of story and text, contemporary TV series enact some significant changes.

First of all, there is a relevant switch from textual forms to *modular content*. A distinctive feature of high concept audiovisual productions is its modular structure, which means that content may be parceled out and replicated in different recreational or entertainment contexts, allowing fragmentation, displacement, and diversification of use. Many contemporary TV series can be labeled as *high concept*,³ that is to say, as objects that are recognizable, well-defined, and have an iconic look. High-concept TV narratives often adopt multilinear narratives that inspire additional narration via other media. Contemporary series are made of narrative matrices, developed on multiple platforms independently from what happens on TV,

yet they are nonetheless influenced by the atmosphere and ambience of the source series. These objects become true long sellers and are subject to re-styling for each season as they take the form of a complex constellation of products, grouped around a single brand.

The second change is the shift from oriented forms of storytelling to *universes in expansion*. TV serial narratives have achieved exceptional duration—with products lasting for many seasons—and persistence among audiences—whose engagement and commitment to a series can last for years. We can think, for instance, of the British series *Doctor Who*, first begun in 1963, cancelled in 1989, revamped in 2005 and still in production with a total, for now, of 26 seasons and more than 800 episodes. A text like *Doctor Who* is a very good example of an object that can last for years, even with some leaps here and there, and that demands of its audience a constant dedication in order to keep it alive, as is also demonstrated by all the ancillary products that contribute to the composition of the narrative ecosystem (see: Hill's "Traversing the "Whoniverse": *Doctor Who's* Hyperdiegesis and Transmedia Discontinuity/Diachrony" in this volume). Although long narrative arcs and audience engagement are also typical of soap operas, the contemporary productions we are interested in have a high degree of narrative complexity that differentiates them from soap operas. We can also observe that the features just described seem to be typical of the US and UK productions, while the Italian TV industry, for instance, is subject to different rules and modes of production as well as to different narrative structures.

In the contemporary mediascape, textual structures have changed substantially. Expanding universes are durable, textured, and full of rich relationships among characters, the diegetic world, and the audience (Carini 2010). In short, they are universes that are inhabitable. Some contemporary series allow the viewer to have an active role in the process of construction and development of the narrative universe. For example, Julie Plec, creator of *The Vampire Diaries* said to have worked on a new narrative thread on the show following protests spread on social networks by many fans calling for further details on some blind spots in the narrative. Fans' contribution to the series' development can also be found in the realm of unofficial paratextual productions, such as fan fictions, fan art, and so on. In such cases, some of the stories written by the fans and published on fan-fiction websites have, for example, the function of filling in the gaps left by the original screenplays, enriching the characters with nuances and otherwise unexpressed emotional implications, while others tend to establish romantic relationships between characters who are only briefly

mentioned in the show. The active participation of the viewers and the impact of the narration on the real world are further demonstrated, for instance, by the proliferation of Twitter accounts of characters from the series, including both official accounts associated with the network and unofficial ones managed by fans themselves.

A third, important change is the passage from story to user experience. Contemporary TV series, as mentioned, consist of a multiplicity of narrative elements. Alongside the weekly episodes designed for television viewing, we also find a multitude of material (e.g. webisodes, mobisodes, recaps) more typical of transmedia storytelling, which allows the user easier access to complex story universes. Modular content puts the viewer in a new position in relation to the series: the viewer needs to orient herself within the highly complex architecture of this production, among the large amount of information constantly provided. In order to enhance this orientation process, all the media objects that belong to the same narrative universe act as interfaces between the viewer and the bulk of sometimes unmanageable narrative material accumulated by these productions. Therefore, the weekly episodes allow viewers to connect and pass through the expanding narrative universe. Narrative elements are able to fulfill an important function of placemaking: they help the viewers reduce confusion and favor their entry, exit, and return to complex and layered narrative universes of different spaces that exist within diegetic, physical, and digital space (Resmini and Rosati 2011). Viewers must be capable of moving within the narrative paths and to link one narrative element to another. Although the series is made up of recurring situations and, despite the standardization of its universe, it develops different morphologies that are not completely predictable. As such, the configuration of the narrative universe is a negotiating process between the use (fruition, experience, and production) and the project (screenplay, media delivery, and marketing).

The fourth switch is the important change from texts to interfaces. Viewing a TV series no longer concludes when the weekly episode has been viewed; instead, it has become a long-term process that largely ignores the typical temporal patterning of these texts (i.e. one episode per week aired in a predetermined time slot). The weekly episode is only the starting point for the viewer's engagement, since she is increasingly called on to interact with the series in an intense and rich participatory activity. As Francesco Casetti underlines, there is a wide spectrum of practices activated by viewers that makes "the spectator a true performer, someone who constructs his own viewing conditions, bringing himself to bear directly upon them" (Casetti 2015, 189). The textual objects that build up the series universe (episodes,

but also webisodes, mobisodes, or recaps) act as interfaces that allow the viewer to navigate a highly complex architecture, modulating the viewer's relationship with the series' universe and acting as the design tools of a narrative experience.

A relevant case is the use of temporal disturbances in *Lost* (flashbacks, flash-forwards, flash-sideways), which are more than just tools for modeling the narrative material since they, in fact, have a strong impact on the configuration of the audience experience. Through these temporal disturbances, the user experiences processes of fragmentation and of reconstruction, both of the narrative material and of the series' temporal flow. TV watching becomes the vehicle of plural, more complex meanings. The show expands beyond its borders (the weekly episode) and is the result of a composite constellation of texts, including spin-offs, comic books, show-inspired novels, websites (amateur or not), and video games that create environments and characters that allow the fans to role-play. Watching a TV series becomes a distributed and diversified experience, which often leads audience members to go back and forth between the physical and the digital, generating participation and stimulating further consumption. It is something closer to living in the world of the program, rather than simply following a storyline.

The Narrative Ecosystem

As we have mentioned, our focus is on audiovisual texts that have a modular structure. These texts can be serialized and (re-)used in different contexts and at different times, according to customized schedules.⁴ The texts can be assembled in communities of viewers who share an interest towards them. Nowadays, dominant narrative forms are characterized by increasing interactivity, opening up more and more space and autonomy to a new kind of active user. A vast narrative represents an evolution of "story", that is to say, an ongoing and intricately developed storyline, with many characters and multiple settings (Harrigan and Wardrip-Fruin 2009). Many contemporary TV series are the result of an ecosystemic design, in which a general model is developed in advance as an evolutionary system with a high degree of consistency among all its components. We can therefore move from the idea of "text" to that of the "narrative ecosystem", a system bearing a specific set of characteristics that can be defined as follows:

- Narrative ecosystems are open systems, inhabited by stories and characters that change through time and space, in which changes of setting, character, and even temporality are specific traits of TV series;
- They are interconnected structures: sequels and prequels, reboots, spin-off, and crossovers are all in a dialogic relationship with each other (Innocenti and Pescatore 2008);
- They tend to reach and maintain balance over time, producing a sustained and persistent universe that lasts outside the space of the screen, while being modified according to unpredictable lines of development;
- They are not determined by a syntagmatic sequence of functions, but rather by elements that describe environments, characters and relationships, letting the viewer travel through the narrative universe;
- They are made up of an abiotic component (the media context) and a biotic component (the narrative structure). The narrative material is alive, undergoing processes of competition, adaptation, change, modification, etc.; while the abiotic component is provided by the media landscape in which the TV series is included. That media landscape is shaped by the economic and cultural structure of specific nations (Hilmes 2013).

As this outline indicates, TV series are therefore open systems; they are comparable to natural environments, resilient in both time and space, and they combine and integrate narratives, characters, and users in a specific media space. In a narrative ecosystem, producers and viewers share the responsibility for the series' evolution. As far as the producers are concerned, they create predictions based on the results of the TV series in terms of ratings and the number of viewers—this is the top-down approach. This data provides orientation toward investments and resource allocation, such as marketing campaigns, scheduling, target definition, and advertising revenues (Ferguson 2008, 156-160). Fans also make previsions (the bottom-up approach), since they act as a community held together by a shared interest in the life, duration, and resilience of TV series.⁵

Ecosystems tend to reach and maintain a certain balance over time, orchestrating a sustained and stable universe. The system is in equilibrium when it is consistent and resilient. It is consistent when it is capable of suiting the purposes, contexts, and people for whom it was designed (*internal consistency*) and when it can maintain the same logic and recognizability

within the different media, environments, and times in which it acts (*external consistency*). It is resilient when it is capable of shaping and adapting itself for different users, needs, and experiential strategies. Resilience indicates the ability of the system to react to changes (overall radical or unexpected changes) and re-establish its equilibrium. Historically, TV series have been built on long-running narratives, and have had a strong degree of consistency and persistence. They are also resilient because they can survive various perturbations; both external ones—such as changes in programming slots, a decline in ratings, varying audiences, or exceptional events (for example, the writers' strike that lasted 100 days between 2007 and 2008)—as well as internal ones—like radical changes in the cast, the defection of actors, and spoiling phenomena.⁶

Contemporary TV series, as we pointed out above, are no longer simple textual objects, they are instead the result of an ecosystemic design, in which a general model is developed in advance as an evolutionary system with a high degree of consistency between all its components. Moreover, insofar as they are *non-procedural systems*, narrative ecosystems turn the narrative material into a universe in which the viewer can travel, and in which the experience can be randomly reconfigured. As part of an ecosystem, the weekly episode is just one of the potential entry points that allow the viewer to become immersed in the narrative. Access to the series' narrative universe does not necessarily have to happen through the weekly episode aired on TV, but might be, instead, stimulated by other narratives that are linked to the TV series and supported by other media, such as viral videos, mobisodes, or comic books, as it might happen with *The Walking Dead* or the Marvel Cinematic Universe.

Finally, all these features stress the relational nature of transmedia convergent systems, as well as their complex character and propensity to propagate themselves. It also suggests its complementary tendencies of splitting, appropriation, or re-appropriation. In order to function, a cross-media narrative ecosystem has to be sufficiently resilient to allow potentially infinite propagations, interpolations, and spin-offs. Here, we can perceive the dialectic between order and disorder, balance and chaos that is typical to complex systems (Gandolfi 1999; Bocchi and Ceruti 2007; Morin 2011). In other words, it reflects the manifold tensions between project and practice, internal and external processes, constraints and allowances. The set of hypotheses proposed here allows us to go beyond the aporia of textuality/fruition. Moreover, the shift of perspective on narrative ecosystems makes space for the study of media products as *artifacts* that, like many others, inhabit our world,

furnishing and extending it according to a cumulative logic of unpredictable directions.

In the final section of this chapter, we will focus on the relevance of vast narratives in contemporary media production and, in particular, on the possibility of predicting the life of vast narratives through a set of criteria.⁷ This research is still in an early stage and we recognize that our approach still lacks a method for predictive work in the field of TV serial narratives, or at least a model of development. Such an advance in our research would be significant in that it would push the ecosystemic model from an analytical dimension to a more operative one, allowing scholars to understand the dynamics of an ecosystem from a predictive point of view. In the hope of approaching this goal, we will outline some theoretical foundations, drawing on ecological selection and evolution patterns in nature that might be helpful in building a computational method of narrative prediction in our field of interest.

The Selection Process in a Narrative Ecosystem

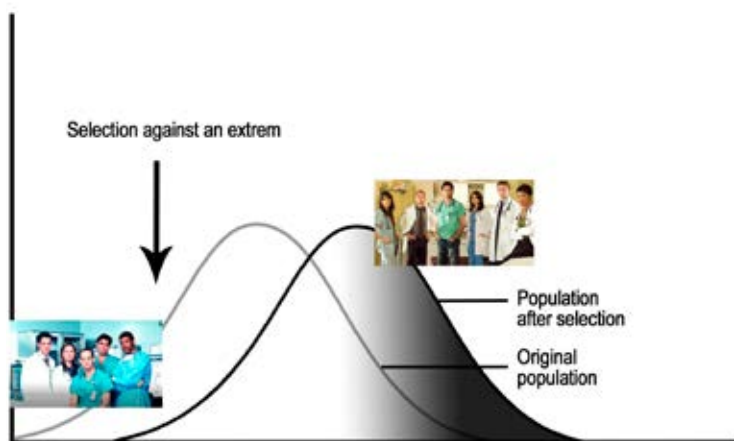
With the purpose of understanding how narrative ecosystems evolve according to specific environmental pressures, we shall first draw on the notion of ecological selection (Smith and Smith 2003). Ecological selection applies to the individuals of a population and has to do with their ability to adapt, survive, and breed. In our case, focusing on single storyworlds rather than on the overall television landscape, we shall apply this notion to the characters of a narrative ecosystem. While in natural ecosystems the environment exerts selection over population, in the case of TV series it is the producer that forces adaptation between a TV show and its audience, by modifying the narrative according to the tastes and demands of the audience in order to maximize ratings and revenues. As ecological niches exert the selection pressures that push populations in various directions, one species could give rise to diversity within the same population. In particular, accounting for directional changes of a specific trait, natural selection can be classified in three major categories: stabilizing, directional, and diversifying selection. We apply these same categories to the distribution of characters, focusing on the way producers select them. Producers can insert new characters and exclude or modify the role of old ones in order to improve the series' performance and profitability. We have observed that patterns of selection in TV series are based on the three selection models detected in a natural ecosystem.

- *Stabilizing selection*: diversity decreases and the population tends to stabilize on a particular trait value—the stronger one. Graphically, we can see that the two extremes are selected against, favoring the intermediate variants. One of the most evident cases of this selection model is the medical drama *House MD*. As the series continues, the character of Dr. Gregory House proves to be the most appreciated by the audience. Its basic features and attitude are therefore boosted by producers, resulting in a peak of the curve that decreases the relevance of the other characters throughout its eight seasons. On the one hand, this behavior might increase the TV series’ appeal; on the other hand, it might cause instability, ultimately decreasing the resilience of the system. A slight misalignment between the producers’ behavior and the audiences’ taste can negatively affect TV shows’ performance. In the case of *House MD*, in fact, after first focusing on the character of Greg House, there was a comeback and reintroduction of old characters that had been removed for a while.



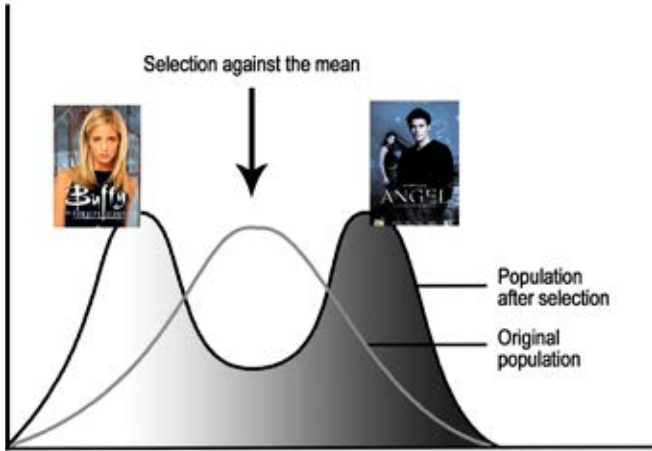
- *Directional selection*: only one extreme of the trait distribution is selected, resulting in a shift of the curve peak to the other extreme. This phenomenon often occurs under environmental changes. Similarly, in narrative ecosystems, changes and upheavals can affect the ecosystem itself, which consequently needs to endure and to adapt to the new environment, often selecting new strong features to focus on. An evident case comes again from the field of medical dramas. In *E.R.*, for instance, we can see how this directional selection has been carried out for fifteen seasons, leading to a complete change in

the set of characters. Indeed, *E.R.* operates a setting that allows for the removal and introduction of characters and storylines according to internal or external needs: a decline in ratings, the defection of actors, or exceptional events. This leads to constant shifts from one narrative focus to another, which drives the creation and stabilization of new peaks. When changes come from contingent reasons, then the shift itself can be the cause of a bad alignment between the tastes or demands of the audience and the series' narrative structure. This behavior can also be adopted by the producers in order to fix misalignments between the narrative set and audience tastes and demands, especially when the audience composition changes.



- *Diversifying selection*: both extremes are selected at the expense of intermediate values. Graphically, the result is a two-peaked curve in which the variance of the trait increases and the population is divided into two different groups. Diversifying selection can affect narrative ecosystems as well, creating two different narrative peaks inside the same universe that eventually results in the creation of a new one. This situation can give rise to spin-offs, shows derived from already existing works and focusing on a certain character or set of characters. Among many others, this happens for *Buffy the Vampire Slayer* and its spin-off *Angel*. Though the two worlds are separated by spatial boundaries—they indeed are two different shows—crossovers are allowed and often employed. This behavior is adopted in order to extend commercial airtime, thus maximizing revenues. There might be a downside to this practice; for instance,

the risk that the character, taken outside its original environment, does not stimulate the same audience interest and reaction that it did in its previous context.



Evolution Patterns in a Narrative Ecosystem

Broadening the focus of our analysis to the overall television landscape, we will now consider the evolutionary patterns of TV shows considered as part of media markets and niches (Dimmick 2002). According to this perspective, we have observed that there are two models of evolution that can be applied to narrative ecosystems.

- *Convergent evolution* refers to different species that, though inhabiting different niches and remaining fundamentally different from one another, become more similar in structure and function over time. In the television industry, this kind of evolution accounts for the contemporary trend of duplication: given different markets based on different kind of production and targets, producers tend to align their programming in order to carve up the majority-taste audience (Doyle 2002). This evolution process is enacted by the exploitation of specific properties that could be profitable. Most recently, for instance, the trend of shows dealing with supernatural subjects has proven to be pervasive in the US TV environment, from broadcast television (e.g. *Supernatural*, *Grimm*, *The Vampire Diaries*) to basic and premium cable (*Teen Wolf*, *Bitten*, *True Blood*). This evolution

process makes genres that are apparently distant from one another converge into a single product. It is the case of *Grimm*, which is basically a procedural/cop-drama, and of *Teen Wolf*, which is basically a teen drama. Both shows become aligned through a boosting of particular features and through the hybridization of genres, thus appealing to a broader audience. Though these series maintain different basic features related to the productive background to which they belong (FCC regulation, business models, target audience, etc.), they nevertheless tend to align with each other over time, replicating the most successful trends—for instance, the stress on both romantic and horror situations.

- Divergent evolution occurs whenever, within the same ecological niche and species, diversity arises. In our case, we can see how a broadcaster operating within one particular market tends to diversify its offer in order to cover all of its possible subsets. For instance, The CW was created by CBS and Time Warner in order to provide a channel that was strongly oriented to a teen audience. At its inception, the channel's focus was mainly on teen drama (*Gilmore Girls*, *7th Heaven*), but now it offers a wide variety of programming, ranging from science fiction (*The Tomorrow People*, *The 100*) to drama/romance (*Gossip Girl*, *The Carrie Diaries*) and supernatural (*The Vampire Diaries*, *The Originals*). The channel's programming maintains a strong teenage-oriented profile; nevertheless, it has evolved through a diversification enacted by stressing both genres and hybridization.

Conclusions

This chapter has sought, first of all, to offer evidence of some limits of the traditional approaches to the study of TV serial narratives—for instance, those derived from the semiotic and narratological tradition—and to propose an alternative approach to these complex productions. Serialization configures a composite environment that we defined as an ecosystem, with the ability to spread and change in space and time. With such a perspective, the single element of a series (the weekly episode) works as an interface, an entry point to the whole, complex environment in which the whole narrative universe of the series is included. As a consequence, it is necessary to hybridize the tools that are traditionally adopted within the field of media studies with others that are more suited to face complex

phenomena, and, thus, to provide an accurate analysis of environments and ecosystems instead of isolated artifacts. Thus, what we have tried to do is to direct our attention to disciplines that are adjacent to media studies, such as information architecture, but also to draw on notions derived from ecology and natural sciences.

In particular, we think that a fundamental principle is that of resilience, that is to say, the capacity of a system to adapt to changes while reacting in order to re-establish its equilibrium. Resilience offers a crucial key not only for understanding the design of convergent systems but also for defining their economic value. In such ecosystems, value shifts from the single artifact (a single text) to the larger totality (the entire ecosystem). That means, in turn, that it is preferable to sacrifice local details and local precision for a better global experience than vice versa. The experience of such ecosystems is a process and a transit across time and space; thus, the more the system allows both users and producers to shape and re-shape the ecosystem itself, with potentially infinite variations, the more it will be capable to grow and spread. The top-down, hierarchical models of the broadcasting industry are therefore inadequate approaches to media ecosystems, because they treat each channel separately. As ecosystems are not just a sum of items (products, channels, times of distributions), both the design and the value processes should embrace a global perspective.

Some phenomena very similar to serial narration and media convergence are now taking place in many other fields, such as industrial design, services design, and marketing. It is therefore desirable to promote a joint study of these phenomena at the intersection of the various fields of analysis: we need meta-models that are able to explain a convergence process that (even with some diverse nuances) affects many of our everyday experiences transversally.

What we have so far outlined is a theoretical framework that accounts for certain processes and changes in narrative ecosystems by drawing on ecological selection and evolution. It is a qualitative examination that points out some possible developmental directions and carries a heuristic value and predictive possibilities. Although characters are just one element of the overall ecosystem, we decided to focus here on this specific element. This choice can be considered an acceptable simplification, in that it highlights processes related to modifying agents (the characters can actually alter the narrative). There are evidently several other elements within the ecosystem that could be taken into consideration; for instance, a study on audience taste would be as relevant as a study of characters.

In the case of natural ecosystems, the selection and evolution processes concern populations, which represent statistically significant numbers of individuals sharing the same traits. For this reason, it is relatively simple to elaborate and to evaluate these processes in statistical terms. In the case of narrative ecosystems, on the other hand, selection and evolution concern a substantially limited number of individuals that are usually extremely different from one another and may not share the same traits whatsoever. In other words, each series, group of characters, or even a single character can represent a population on its own. This implies that a statistical analysis of the process might not work properly, because we have to deal with a group of individuals who are extremely heterogeneous and cannot be assimilated from an analytical point of view.

We should also keep in mind that, in the case of TV series, we are dealing with artificial selection and evolution: as we have seen, the changes are production-driven and are mainly based on interpretations of the selective pressure exerted by the environment. Therefore, the producers make choices based on available data, trying to maximize the efficiency of the series (i.e. its fitness within its environment). However, efficiency is not the only parameter to take into consideration. In fact, as we have seen, to increase efficiency might result in a lack of balance, a decrease of the resilience of the system, as well as a deterioration of its dynamic abilities.

For all these reasons, we deem it necessary to elaborate individual-based or action-based models that account for the behaviors of a single element of the system and that, combined with significant data concerning the narrative ecosystem itself (ratings, panels, surveys, etc.), ultimately allow us to evaluate their outcomes. A viable model should, on the one hand, be able to improve the quantity and quality of data. On the other, it should offer “What ifs,” that is to say, simulations in relation to possible choices (for instance, what might happen to the ratings if the producers make the two leading characters break up?).⁸

Given that we consider TV series a social group (made up of characters and situations), part of the work that we are currently carrying out concerns keeping up with study of those characters. Though we can adopt social research tools in order to study this social group, we cannot apply some qualitative and quantitative methods since we are not able, for instance, to interview the characters. Thus, what we are trying to do now is to consider the social relations among characters through the methods offered by social network analysis; methods that, unlike other models of analysis, do not need direct interactions with the subjects.⁹ We expect to obtain a reconstruction

of the social relations between characters, in order to understand the various positions they occupy, as well as their various degrees of relevance in the narrative ecosystem's organization. By basing our assumptions on the analysis of the interactions of characters, we are attempting to understand the properties of the social network (centrality, betweenness, closeness, etc.) as a basis for making forecasts on series development.

What we have ultimately tried to underline in this chapter is that media products are not "statements" or "texts" anymore: they are artifacts that, like many others, inhabit our world, furnishing and extending it in unpredictable directions according to a cumulative logic. As soon as we recognize that some media productions can be considered proper ecosystems, then our entire experience of the surrounding reality that is affected by this change. Nowadays, we are dealing with a composite and complex reality, rather than with a naturalized, iconic, and reproductive one, in which media images and the information flow become tools for everyday life and a relevant part of our life experience.

Notes

1. This article is the result of joint and collaborative work that the two authors have been undertaking since 2010. It is also partially based on two articles Pescatore, Innocenti 2012 and Pescatore, Innocenti, Brembilla 2014.
2. On this matter, see Ryan in this book and especially the paragraph titled *Narrative Proliferation*, in which Ryan explains how in the same narrative world many different stories can live together and be told about that world. Stories are subject to fragmentation, divided into many elements and, in the specific case Ryan analyses, fragments "tend to become shorter and shorter [...], are presented in a seemingly random order."
3. The concept is used in film studies (Wyatt 1994). We applied the idea of high concept to TV series in our book (2008).
4. Recently, we have witnessed relevant changes in this matter. For instance, the debate on binge-watching exploded when Netflix started releasing episodes of its serial programming simultaneously. See, among others: Poniewozik 2012; Pagels 2012; West 2014.
5. See, for instance: a section of the website *Italiansubs.net*, specifically dedicated to this topic: <http://www.italiansubs.net/forum/greys-anatomy/totomorto-season-11/>.
6. The concepts of consistency and resilience applied to TV series have been explored in Innocenti, Pescatore, and Rosati (forthcoming).
7. Our approach has proven to be quite effective in the analysis of TV serial products. Since 2010, when we first proposed the definition of narrative

- ecosystems and started our work in this field, we have organized two international conferences dedicated to this topic (*Media Mutations 3. Narrative ecosystems: environment, tools and models*, Bologna, 24-25 May 2011 and *Media Mutations 4. Narrative ecosystems: flows, transformations, social uses*, Bologna, 22-23 May 2012); we have edited a book collection and we have published several papers on national and international peer-reviewed journals.
8. An interesting approach that has some similarities with our reflections is included in Moretti, who makes “a little attempt at quantitative stylistics, examining some strategies by which titles point to specific genres” (2009, 136). Moretti’s attempt is interesting to us since it seems to remark the necessity of implementing quantitative methods and computational tools for the humanities and, in particular, in the fields of film and television studies.
 9. This work is carried out through the use of the software Ucinet.

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