Comics and Diagrams: An Introductory Overview

Andrea Tosti [0000-0003-2421-6554]

Lancaster University, Bailrigg, Lancaster LA1 4YW, United Kingdom
a.tosti@lancaster.ac.uk

Abstract. Although both so-called 'data comics' and 'comics geographies' fields have been defined as emerging, there is a lack of structured and multidisciplinary studies that deal with comics' diagrammatic nature. The parallelism between comics and diagrams, dear to many comics makers and some scholars, is more than a mere graphic suggestion or similarity. Unlike the written word and other visual art forms, comics, through the multi-vectorial narrative skills typical of the page layout, overcomes alphabetic writing's linearity to open up to synchronic and parallel space-time narratives. Comics also favours ellipses, spatial dislocations, and micro-narrations in larger narratives more naturally than in other artistic and narrative forms. Moreover, comics make possible, differently than in literature, a strong involvement of the reader in constructing alternative paths. The grid is the element that brings comics back under the category of diagrams through its ability to temporalize space and create hierarchies and relationships between the parts (panels). Through some examples, this paper offers an introductive overview of the many possibilities offered by a diagrammatic reading of comics, demonstrating how even the most straightforward grid configurations can convey complex concepts.

Keywords: Comics, Diagrams, Maps

1 Introduction: The Impossible Definition (s)

Describing-what comics and diagrams are is a challenging job. As for diagrams, a non-specialist but exhaustive definition could be: "Diagrams are schematic figures or patterns comprising lines, symbols, or words to which meanings are attached" [2, p.397]. Eddy's definition of diagrams fit comics. We could describe comics as schematic figures AND patterns comprising lines AND / OR symbols AND / OR words to which the meanings are attached. Both diagrams and comics do not constitute a hybridization of the elements listed above but their own categories. Furthermore, as Cates notes [4], many comics use a pictogrammatic graphic style used in diagrammatic representation.

The definition of comics is also problematic. As Groensteen said: "searching for the essence of comics is to be assured of finding not a shortage but a profusion of responses" [8, p.12]. The broad definition(s) of comics includes objects very different from each other due to the context they are created and used. Although this vast number of variants, every comics reader knows comics are self-evident. Paraphrasing what Wittgenstein said about games, if we look at comics, we won't see "something that is

common to all, but similarities, relationships, and a whole series of them at that. To repeat: don't think, but look!" [1, p. 209].

This invocation is fascinated when it refers to comics, a medium that could confirm that seeing is itself a form of thinking able to override reading and overcome the logo-centric and linear approach to information. As Miodrag says, "All narrative forms can, analeptically or proleptically, override their diegetic sequencing, but [...] only comics can potentially override textual progression" [13, p.143], through reading the page that can "be seen and read in both linear and nonlinear, holistic fashion" [10, p.48].

1.1   Comics, Maps and Diagrams.

Holistic and nonlinear reading is also typical of cartography. The relationships between comics and maps have been widely explored [15-16, 18]. As the eye can wander on the map, building imaginary routes so it can also do so on the comics page, violating the 'Z-Path' (left to right, top to bottom) [5, 11] in favour of erratic paths [17] as it happens for infographics [12]. In fact, comics, through the multi-vectorial (or 'multi-order') narrative skills typical of its page layout, overcomes the sequentiality to open up also to synchronic spatial and temporal narratives [6]. Furthermore, comics and maps can work together to create new paths within a space that is both narrative and geographic [16]. Therefore, multilinearity is an attribute of both maps and comics, but Hadler [9] notes that it also belongs to diagrams. Within certain limits, simultaneity and multilinearity allow free exploration of maps, diagrams and comics: one (the author) first builds and then (the reader) explores an ambient made up of space, discrete units or logical operators. Comics, therefore, live in a constant tension between a linear dimension, which involves the individual graphic discrete units (the panels), and a spatial dimension that concerns the page's layout. The plastic and semantic relationships between these images - adjacent and not - which their "coexistence in praesentia" [8, p.23] makes possible are the ones that make comics into a text.

Beyond the purely narrative aspect, in this article, we are interested in whether and to what extent comics can be a device that the reader can reshape to transform the latter into a user capable of creating or discovering new meanings. As is the case with diagrams, considering that "the essential thing about the diagram is that it is made in order for something to emerge from it, and if nothing emerges from it, it fails "[3, p. 290]. There are comics in which the diagrammatic character is made explicit [e.g., 4], but 'diagrammaticity' is an element present - with varying intensity - even in those comics considered more 'traditional' by a large audience.

1.2   The Grid

The grid is both the framework, the foundations and the surface of the comics building. In common usage, the term 'grid' indicates a regular subdivision of the space into equal portions, but in the comics field, it is used colloquially to indicate any organizational structure of the comics page: the layout. In this article, we will deal with table grid, colloquially also called *waffle-iron*s. More generally, the grid is also the element

that creates time through the fragmentation of space, both geographic and typographical.

Fresnault-Deruelle [7] notes that the signifying function of spatialization for the page's narrative purposes or, better, of the cage ('grid'), emerges overwhelmingly. More than other elements, the grid brings comics back under diagrams, as it can introduce hierarchical principles and consequentiality between the parts in the comics' narrative, creating a discontinuity between the panels. This discontinuity is recomposed thanks to the wider system represented by the page layout. As Miodrag notes [14], "Narrative breakdown - the dispersal of content into discrete, interdependently interwoven units - has few parallels in other media". Groensteen suggests that spatial and topographical parameters ('spatiotopie', according to the author's neologism[1]) condition the ways in which the story is told. The page composition is a communication resource in its own right. Whatever the comics are, a grid itself warns us that narration is happening on the page. "But comics is not only an art of fragments, of scattering, of distributions; it is also an art of conjunction, of repetition, of linking together" [8, p. 22]. To summarize, the grid in the comics plays several vital functions: it connects separate moments but physically co-present on the page; assigns to the latter different hierarchy importance; transforms space into a narratively oriented temporality, that is, it allows the passage from a sequential narrative to a spatial narrative. Furthermore, the grid creates the possibility of spatial relationships not necessarily temporal or chronological, but that also express logical associations and correlations.

Naturally, more complex grids will correspond to greater complexity both of the hierarchy and connections between the panels and the mobility of the gaze, but this does not mean to affirm the existence of "'zero degree' of spatiotopical expression. On the contrary, "[the regular grids] express a vision of the world founded on the notion of order, on Cartesian logic, on rationality" [8, p.49].

In this article, we will deal above all with the apparently more straightforward configurations, precisely to demonstrate both there is no zero degree of spatial expression and those apparently simple grids, comparable to lattice graphs, allow complex narratives. However, most of all, comics make possible, differently than in literature, a strong involvement of the reader in constructing alternative narrative paths.

Through the examples shown below, we try to demonstrate how comics can easily and naturally show non-chronological and intertwined narrative lines, different points of view, contemporary events, temporal dislocations and complex information networks proposed to the reader with great clarity.

---

[1]   "The spatio-topia is the point of view that can be had on comics before thinking about any single comics, and starting from which it is possible to think about a new performance of the medium" [8, p. 23].
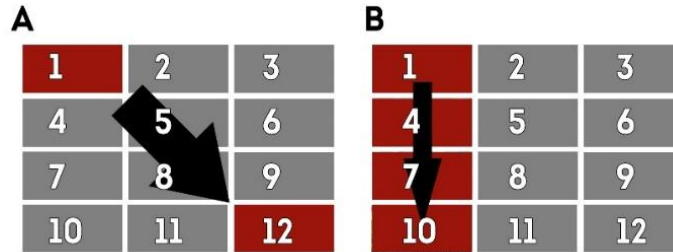
2 The evolutionary structure.

Fig. 1. Description of alternative routes in *A Short History of America.*

In Robert Crumb's one page comics *Short History of America* (1979)[2] , the general context is always present to the reader's eye, who can jump from one panel to another. Through twelve panels arranged on four strips, Crumb describes the evolution of a single plot of land to show how anthropization and industrialization had profoundly and negatively affected that land. In this apparently linear grid, we can still identify the different functions performed by the grid.

- It is a linear representation system of time, based on the sequentiality of the alphabetic reading, which allows us to read it following the numerical order in Fig.1 ('z-path'). The contiguity of the panels gives rise to a consequential and 'evolutionary' narrative, in which each panel acquires meaning in comparison with the one that precedes it and with what follows it, as in a timeline;
- The grid allows overwriting a linear reading thanks to the physical coexistence on the page and the perception of coexistence on a temporal level of the individual panels/moments. Thus, the reader's eye can create its own paths, comparing temporally more distant events, which simultaneously may (Fig.1 B) or may not (Fig. 1 A) be spatially contiguous.
- The grid creates an effective system offering a specific type of orientation and an order of an aesthetic-organizational nature, which gives the user/reader an idea of organization and, therefore, of a world independent of each subsequent 'reading'.

We can undertake sinuous comparative paths searching for comparisons not only nonlinear but that find resonances and influences back and forth in time. The erratic wandering of the gaze on the page – experimentally confirmed [17] - is, to varying degrees, typical of comics use but is favoured by at least one row and one column. In

---

2   A black and white version can be found at <https://klaustoon.wordpress.com/2020/06/19/an-analysis-of-a-short-history-of-america-by-robert-crumb/>, while a color version can be found at <http://www.fumettologica.it/wp-content/uploads/2014/05/A-Short-History-Of-America-By-Robert-Crumb-670x472.jpg>.

the comic strip format, an alphabetical orientation prevails. Also, in the case of comics pages called multi-panel or polyptych, in which a continuous background is divided into panels (like a geographical map divided into sections by parallels and meridians), the general image works both as a map and as an abstract [18, pp.49-53].

It is not a question here of doubt there is a preferential order of reading or that cartoonists cannot guide the reading path of their readers [11]. It must be stressed that what we have often defined as a wandering gaze up to this point can instead be guided to infer new narratives and information without betraying the general meaning of the work. Comics is a device that can offer different and coherent interpretative possibilities, a generator of multiple meanings that can be used and not just read, just like a diagram.
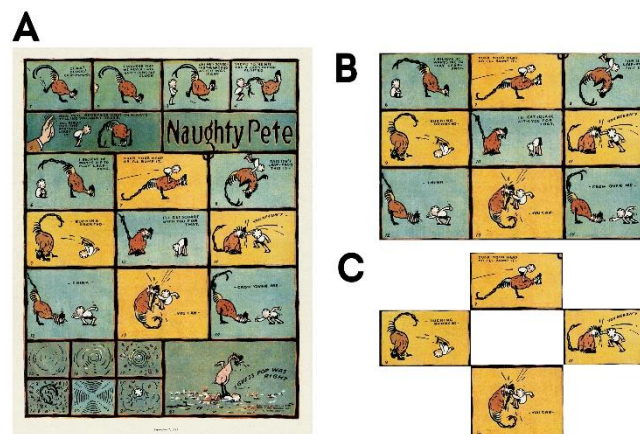
3 Micro-narrations.

Fig. 2. Charles Forbell, *Naughty Pete,* 7 Sept 1913, and two elaborations of the same comics.

We have seen how it is possible to select alternative patterns to the usual sequential ones to create different meaning paths or summaries and elaborate hypotheses, experiment with jumps and temporal dislocations and play with the *what if*. In Charles Forbell's Sunday Page proposed below (Fig.2A), we find an apparently less regular grid. Actually, we can isolate some partially autonomous stories, even if inserted in the general flow. These stories are visually separated into blocks thanks to the skilful use of both the layout and colours. The section we are interested in analyzing is the central one, in which Pete first jumps on the back of the rooster and then fights with the latter (Fig.2B). The different chromatic dominances (green and yellow) of the alternating panels creates two distinct narrative lines. The yellow, the brightest colour, highlights the three critical moments of the sequence: the jump on the back of the rooster, the

unsaddling, the fight (two panels) and while the four green panels are those that tell the intermediate and less convulsive phases.

The micro-sequence in yellow (Fig.2C) can be effectively read counterclockwise - starting from the first panel at the top. Therefore, the two sequences are integrated because they tell the same episode with different rhythms and intensity but maintain a certain autonomy. Both paths lead to the same conclusion but offering different nuances and syntheses. Both contain the topical information (the unsaddling and the conflict) necessary to move on to the following sections, but following the green path, the final confrontation is caused only by the threat of violent action while, following the yellow one, the struggle is caused by Pete's aggressive reaction.

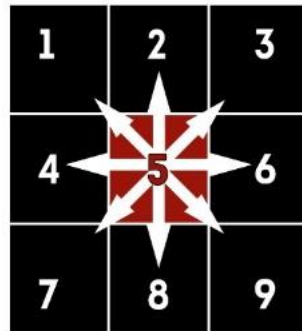## 4   Centripetal narrations.

Fig. 4. Diagram of the centripetal structure in Bianca Bagnarelli's comics illustrating the article by Selin Davis *I Couldn't Turn My Abortion Into art*[3], 2 July 2014.

In this work[4] - a delicate and intense work on abortion - we can see much better how diagrammatic and sequential nature coexist peacefully. Bagnarelli introduces an even stronger idea of circularity of the gaze, using a grid of nine panels and concatenating them in a centripetal manner to the central one. These connections express the woman's relationship with the hypothetical future life she carries within. In explaining the drama, the author finds a synthesis that did not suffer from brutal simplification or incompleteness. Bagnarelli builds a sort of whirlwind tale. The central panel represents the fulcrum of this graphic vortex. The entry point through which the reader begins a comics is conventionally identified in the upper left panel, just as the lower right panel represents the exit point. Here, the most likely entry point for the reader's gaze will be the central panel that imposes the hierarchy of meaning by acting as the graphic centre of the story

---

[3]   The New York Times: <https://opinionator.blogs.nytimes.com/2014/07/02/i-couldnt-turn-my-abortion-into-art/>

[4]   The comics can be found at < https://images.vogue.it/gallery/23655/Big/0121f912-69eb-40fa-8a77-823ecbac1843.jpg>.

and the centre of the woman's thoughts. The image of the fetus - that is the focus of the woman's thoughts - also serves as the work's visual title. The comics proposed here is perceived as a whole. Therefore, the reader perceives the other images - that are connected to the central one and marginalized by it - simultaneously. In this struggle between looking and reading, between the whole (the page) and the particular (the panels and their sequential reading, the Z-path), lies the visual and perceptive explanation of another conflict: that between story and vision. The user of the comics page perceives, especially given the absence of words, the grid as a unique structure, meaningful than building its own particular path. There are also symmetrical references (hands and feet to the right and left, the woman's head up and down) that offer emotional associations, not purely temporal but (also) conceptual. What counts here is the expression of the protagonist's emotions expressed by the whirlpool shape of the grid.

5 Conclusions

This article analyzed the literature relating to a spatial and sequential use of comics to make them fall within the field of diagrams, albeit considering the specific differences. The similarities of the comics with the diagrams and, in particular with the maps, were then highlighted to demonstrate not only their affinities but also some possibilities of cooperation. It was chosen to analyze regular layouts to demonstrate that the diagrammatic nature of comics does not belong specifically to those explicitly diagrammatic comics but can be found in most incarnations of the medium. Although some obvious constraints and limitations, we have seen how the grid, the topographical gaze, and the sequential narrative - or narratives - cooperate to multiply the medium's narrative possibilities. We also saw how involving the reader in an operation inherent in reading a story and the active construction of other meanings, through operations of dislocation, recombination and partial rewriting of the narrative material provided. The examples provided have demonstrated how this proliferation of paths does not betray the general meaning of the works analyzed but is instead capable of both expanding it, synthesizing it, and even creating new narrative and meaningful paths. Through associations less linked to a sequential approach, new paths could lead to new and unprecedented meanings. Therefore, comics could be considered not only as a narrative tool but as a critical, ambiguous and polysemic instrument of analysis. Studies about the diagrammatic nature of comics are not yet very numerous, but the possibilities of a collaboration between these two machines generating multiple meanings could lead to exciting and fruitful developments.

References

1. Bambrough, R.: Universals and Family Resemblances. Proceedings of the Aristotelian Society, New Series, 61 (1960), 207-222 (1961)
2. Eddy, M. D.: Diagrams. In: Grafton, A., Blair, A., Goeing. A.S. (eds.). A Companion to the History of Information, pp. 397-40. Princeton Univ. Press, Princeton (2020)

3. Bazzul, J. and Kayumova, S.: Toward a Social Ontology for Science Education: Introducing Deleuze and Guattari's assemblages. Educational Philosophy and Theory 48, no.3, 284-99 (2016)

4. Cates, I.: Comics and the Grammar of Diagrams. In: D.M. Ball and M.B. Kuhlman, (eds.) The Comics of Chris Ware. Univ. Press of Mississippi, pp.90–102 (2010)

5. Cohn, N.: The Visual Languages of Comics: Introduction to the Structure and Cognition of Sequential Images. The Univ. of Chicago Press, London (2013)

6. del Rey Cabero, E.: Beyond Linearity: Holistic, Multidirectional, Multilinear and Translinear Reading in Comics. The Comics Grid: Journal of Comics Scholarship, 9(1) (2019)

7. Fresnault-Deruelle, P.: Du linéaire au tabulaire. Communications, 24(1), pp.7–23 (1976)

8. Groensteen, T.: *System of Comics*. Univs. Press of Mississippi, Jackson (2007)

9. Hadler, F., Irrgang, D.: Nonlinearity, Multilinearity, Simultaneity: Notes On Epistemological Structures. In: Moura, M., Sternberg, R., Cunha, R., Queiroz, C., Martin Zeilinger (eds.) Proc. of the Interact. Narratives, New Media & Social Engagement International Conference, pp. 70-87 (2014)

10. Hatfield, C.: Alternative Comics: An Emerging Literature. Univ. Press of Mississippi (2009)

11. Jain, E., Sheikh, Y., Hodgins, J.: Inferring artistic intention in comic art through viewer gaze. In: SAP '12. ACM Press, Los Angeles, pp. 55-62 (2012)

12. Majooni, A., Masood, M., Akhavan, A.: An eye-tracking study on the effect of infographic structures on viewer's comprehension and cognitive load. Information Visualization, 17(3), pp. 257-26 (2017)

13. Miodrag, H.: Comics and Language: Reimagining Critical Discourse on the Form. Univ. Press of Mississippi, Jackson (2013)

14. Miodrag, H.: Narrative breakdown in The Long and Unlearned Life of Roland Gethers by Hannah Miodrag. *Comics Forum*, <https://comicsforum.org/2013/03/27/narrative-breakdown-in-the-long-and-unlearned-life-of-roland-gethers-by-hannah-miodrag/> [Accessed 25 Apr. 2021] (2013b)

15. Moore, A.: Cubes, shadows and comic strips - a.k.a. interfaces, metaphors and maps? In: Whigham, P.A., McLennan, B.R. (eds.) SIRC 2004:A Spatio-Temporal Workshop, Proceedings of the 16th Annual Colloquium of the Spatial Information Research Centre; University of Otago. Dunedin, New Zealand; pp. 97–102 (2004)

16. Moore, A.B., Nowostawski, M., Frantz, C., Hulbe, C.: Comic Strip Narratives in Time Geography. ISPRS International Journal of Geo-Information, 7(7) (2018)

17. Omori, T., Ishii, T., Kurata, K.: Eye catchers in comics: Controlling eye movements in reading pictorial and textual media. Paper presented at the 28th International Congress of Psychology, Beijing < http://www.cirm.keio.ac.jp/media/contents/2004ohmori.pdf> [Accessed 25 Apr. 2021] (2004)

18. Tosti, A.: Heterodox origin of comics: calligrams, chronologies and maps. Todas As Letras, vol. 21, no. 1, pp. 45-68 (2019)