

Narrative Mapping

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This appeared (in a slightly different version) in:

Anna Everett and John Caldwell (eds.), *New Media: Theories and Practices of Intertextuality*, Routledge, 2003, pp. 145-158.

Illustrations appear at the end.

I want to attempt to link up a variety of areas of creative endeavor which I believe have a common goal. As I don't think these strands have yet been pulled together and given a name, I want to try to do so here. This is also valuable to do because digital media bring out the possibilities for further work here like never before, especially for suggesting new interface possibilities.

I would call this activity "narrative mapping" and give it a simple and broad definition: an attempt to represent visually events which unfold over time. This would be mapping (rather than just presenting a picture), because space, time, and perhaps other components of the events would be accounted for. A visual information space is constructed that provides a formulation of complex activities.

These mappings may be of real or fictional narratives, but my own feeling would be that the latter presents the greatest challenges, because mapping becomes a form of critical visualisation. ("Critical Visualisation" might be a useful alternative term to "Narrative Mapping".) Take virtually any great work of literature or film and try to ask yourself: what would a mapping of this work look like? While both the fictional and the real can be mapped, it's useful to distinguish between the two to consider possible differences between mapping strategies. Our conclusion may be that the only difference is of available information (finite in the case of fiction). I am principally arguing that

fictional mapping is both possible and productive, and extends from real-world mapping practices.

The kinds of activity which can be linked to this enterprise have been showing up in a lot of places. What has been happening (or could happen) is a merging of information graphics, journalistic diagramming, visualizations, reconstructions, and some conventional-looking (but ambitious) geographic maps, all in service of this idea of looking for approaches to representing a set of spatially located, temporally situated events.

To lay out this territory, I want to do two things. First, I will suggest some reasons this might be a productive area of endeavor, and then I'll briefly survey a number of attempts to do this. Taken together, I hope this will put narrative mapping on the map.

Four Purposes of Narrative Mapping

1. Representation

Maps can become that which they represent. They can stand in for, even replace, that which they seek to model. Particularly with complex instances of narrative structure, they can do what all good maps do – offer a visually readable opportunity to see both grand contours and areas of specific interest. A narrative map, as it seeks to provide a visual theory of the work (or the event), subsequently vies with the original (and other possible mappings). A simple example would be a set of visual thumbnails representing scenes in a film on a DVD. When the thumbnails are laid out so that they can then be clicked on by a user, one need never return to the original form of. Instead of watching a

film from start to finish, the mapping is now an alternative method to both conceptualise and access the work.

While in the midst of a succession of events unfolding over time, we might not have a sense of a "larger picture" (or "bird's-eye view") which a mapping can provide. The ability to unpack, to deconstruct, to resequence, can be inviting functions of narrative mapping.

There are some types of narrative which are especially appealing as representation. As mentioned, complex narratives are one such type, as are those which are ambiguous in some fundamental fashion. Narratives where the events themselves and their potential sequencing (and possible simultaneity) have multiple explanations or versions would be good mapping subjects. Examples of such narratives would include crime scenes and accidents. Also, narratives with elaborate temporal constructions, such as flashback films, suggest a need for sorting out or making linear which a mapping could provide. A form of ambiguity related to temporal construction can also naturally be spatial – it can be difficult particularly when events closely overlap temporally to establish an order or set of relationships. We will look at one such example in a bit – Stanley Kubrick's early crime drama *The Killing*. In general, when events are either condensed or dispersed, spatially or temporally – in other words, too much at once, or just a little over a long period of time, or all in close quarters or all over the globe - these are instances where mapping provides a means to represent these events in a coherent and compelling manner.

Also, it can be said that narratives may contain implied mappings, a sense that underlying their creation was a mapping that's been hidden from us, so we can be

representing, in a sense, what's already there but hidden from us. We may be recreating what an author has worked out yet chosen not to reveal so explicitly.

2. Analysis

A mapping can itself be a means of theorizing, a way of isolating and exploring specific activities of narrative, particularly those which are not immediately evident. Or, analysis can go global in a sense, providing an overview or synthesis which recasts the narrative in a new light.

Aspects can be teased out, grouped, color coded, abstracted, or otherwise reformulated, for the sake of offering some new perspective or approach. Mapping is clearly an interpretation, so it can be a kind of textual analysis – a reading as much as a mapping.¹ While grounded as much as possible in the details of a text, a mapping will likely require a certain amount of conjecture, and also a willingness to accommodate ambiguities and contradictions regarding temporal and spatial questions. Where is a text grounded in the physical specifics needed for an unarguable mapping, and where must the mapper "fill in" a pattern or an uncharted but indicated aspect? Again, this is not so much a re-enactment (a picturing of narrative events) as it is an abstraction – a method to translate significant aspects of a work into a theoretical construct.

3. Information Space

To map narrative is to model an information space, or in part to construct an underlying database which is then visually represented. One kind of mapping is to connect aspects of a narrative to things which led to its creation (for example, linking

shots in a film to their preceding storyboards) and then to what has subsequently been said about it (like critical texts), so that the work is positioned within an unfolding process of creation, influence, and response. Even without linking to the before and the after, narrative mapping can develop a structure to position and contextualize bits of information, as much as being a visual representation. The map is of a field of linkages, a model of how ideas and like objects connect.

4. Interface

Narrative can shift into becoming its own interface – in fact, I think a well designed narrative map cries out to be an interactive mechanism leading one back to the source. When a narrative is broken down or segmented – into scenes, shots, actions, or other units, these elements can become the means to access the work. This is why hypertext is already a form of mapping, but any form of abstraction or visual representation is a possible interface. Good maps should allow easily to be clicked on or to be moved through, zoomed in and out or left and right, or from a location to a piece of information. So the map becomes the interface to the work itself, the text its own invitation to user initiated access.

In a digital environment, an interface is itself a form of mapping, in that it can serve as a navigation guide to a set of underlying materials and experiences. Whether one is playing a video game, exploring a museum collection, or reading a web-based newspaper, a well-designed interface will represent an orienting representation of an underlying information model. So narrative mapping can be seen as a method to move critical activity (the conceptualizing of a work into visual form, with temporal and spatial

dimensions) into the realm of interface design. The restructured views of the narrative map can become the means of access to the work itself, since the map is already a representation of its structure.

Most Popular Types of Narrative Mapping

As a last means to underline the purposes of narrative mapping, I'd like to characterize the most common types, after which we'll consider some specific examples.

1. Geographic

As might be expected, many narrative mappings are geographically based. A most useful form is the mapping of fictional characters onto real and constructed spaces.² Narrative maps can look like "regular" geographic maps, but it should be remembered that fictional works can as well enter this realm, and that the geography of a fictional work may or may not be any more "real" than the characters being mapped. Particularly in the case of films, it has been easy to assume that the places being depicted, especially when given the names of actual places, are their real-world counterparts. The Bodega Bay, for example, in Alfred Hitchcock's *The Birds* is mostly a constructed space (drawn and constructed much more than photographed), so apart from mappings which might place the film's characters on an actual map of the place, the altered geography from the world to the fictional work might itself be a concern. In either event, the temptation to use maps of actual places and then incorporate various fictional aspects is often a rewarding enterprise.

2. Temporal

Whether timelines or grids (we see both), an ordering in time marked in units is the expected counterpart to the Cartesian space of geographical mapping. Events can be placed in sequence, revealing gaps and overlaps which are not as apparent in their original presentation. A mapping over the space of time is roughly possible with nearly all narrative works, and in some cases can be accomplished with considerable precision. Two examples, one old and one recent, will be presented here.

3. Thematic or Structural

While thematic mapping has a specific meaning in the world of cartography,³ narrative mapping can isolate elements within a work and locate them against a model of the work as a whole. A color coding of a film, for instance, could represent instances of moving camera, close-ups, or any other stylistic aspect. Appearances of a character, of different visual motifs, of virtually any repeated device are also mappable qualities.

4. Conjectural

While aspects of narrative mapping can involve reconstruction, we should remember these are often speculative or hypothetical. Mapping may be an attempt to visualize, and to fill in what's either implied or altogether absent. While a drawn or modelled image tends to have greater persuasiveness than a written description, one appealing aspect to narrative mapping is this crossing of the line into the advancement of proposed alternatives. We can picture the plane crash which left no living witnesses or the story told elusively. Narrative maps can be guesses made visible.

5. Conceptual

This may apply to all good narrative maps, but there is a special "all at a glance" quality which shows the work or events under study in a wholly fresh manner which invitingly contends with whatever it is meant to represent, the mapping being the more thought out and unambiguous alternative. When one comes to understand the eloquence of the London or Tokyo Underground maps, who would choose to visualize instead the underlying chaos they distill? Narrative maps at their boldest can reconceptualize. So much can be ignored, while other aspects are eloquently brought to the fore in a concentrated manner, that we see the events under study as is they never made sense before, never had achieved their proper form. And the subject and the map delightedly intertwine.

Having now suggested these broad categories, let's pull together some examples of work from a number of areas and attempt to place them all under this broad umbrella. If they seem to be strange company to each other, that is what I hope for – to try for a merging of disparate work – all as instances of narrative mapping.

The Examples

1. Franco Moretti [See Illustration 1]

Moretti's recent book *Atlas of the European Novel: 1800-1900* is the single most ambitious attempt at what he calls "a geography of literature". Looking at authors such

as Austen, Dickens, and Zola, Moretti is often concerned with ideas of class which come out by charting the geographical spheres of all of a novel's principal characters.

While many of Moretti's examples are simple national or city maps upon which he has applied prodigious effort to indicate where certain narrative actions occur (and which characters are involved), sometimes he is prepared to leave geography behind. In a tour de force section on Dickens, Moretti notes that his diagrams here "constitute largely autonomous narrative universes."⁴ He ingeniously indicates class and professional spheres of activity, so that he can then mark transgressive paths through them.

His map of *Bleak House* will serve as a case in point. Accounting for at least thirty characters, his map can place a single character in a series of realms, and also show how one character's plot moves through this series (notice the plot lines – they are literally lines). Elsewhere, Moretti convincingly maps major cities through the placement of characters from multiple novels of an author (Sherlock Holmes' London, Zola's Paris), but I find him here with Dickens at his most ambitious – leaving the city behind to map structures not entirely dependent upon geography.

2. *The Birds* [See Illustration 2]

This is from work I've been doing on Alfred Hitchcock. It is a few thumbnails short of being every shot in *The Birds*. It is also a visual database from which one can get information about each shot, view storyboards and scripts, and drag the mouse to see selected sequences. But I also like it this way, as an opportunity to see a film all at once, a bird's-eye view of *The Birds*, as it were.

While the first shot in the film is at the upper left and nearly the last at the lower right, the full image is a narrative mapping. One can easily see starts and ends of scenes, shifts from day to night, color preferences, and other wonderful things, all in just a single still image composed of many smaller images, each the opening frame of an individual shot.

By altering the frequency (every fifth shot, say) or the size, one can simulate "flying" over the film, just as one can with conventional geographic maps. It is also a good example of the "all at a glance" mapping again, which shows you a familiar thing (a movie) in an unexpected manner.

3. Etienne-Jules Marey [See Illustration 3]

If narrative mapping has a father, Marey is it. His 1880 masterwork, *La Methode Graphique*, is replete with examples which are still eminently applicable, as I hope to show. This chart I first saw in one of the three books of the modern master of information graphics, Edward Tufte. Marey is probably still best known as a key pre-cinema figure, for the invention of the chronophotographic gun, but the same Marey is also full of ideas for plotting movements and events over time.⁵ While we will only look at one here, even Tufte's first book includes several examples from *La Methode Graphique*.⁶

This 24-hour train schedule of all Paris-Lyon trains is also a beautiful "all at a glance" image. The steeper the line, the faster the train. Crossings, stops, relative frequency are all easily digested. It is a classic mapping of space over time. While Marey is looking at a train schedule here, he clearly sees the link to other space-time

relationships, as mapping motion was one of his principal endeavors. From trains to birds' wings to horses' hooves and on to a wealth of other scientific phenomena, Marey among his many attributes mapped these phenomena in a manner which showed great skill in the "graphic method", and Tufte is quite right to value his work in this area so highly.

4. The Killing [See Illustration 4]

In a direct homage to Marey, I have taken the Stanley Kubrick film *The Killing* and mapped all events on the day which most of the film is interested in – when a race track robbery occurs. The film is narrated with to-the-minute precision, so I don't doubt that somewhere a mapping like this exists in Kubrick's own hand.

The order in the film is from top to bottom, and left to right on each line. I have used this map as an interface to the film, so that one can click on each block (represented as a specific chunk of the movie's space-time) and view that sequence from the film – thus allowing for closer viewing of contiguous scenes if one wishes (or in any other chosen order).⁷ This is all very useful, but I would acknowledge it is a mapping pretty close to what Marey was exploring 120 years ago.

5. Newspaper Reconstruction #1 [See Illustration 5]

Interestingly straddling ground between illustrations, maps, and charts are newspaper reconstructions, which at their best are among the most sophisticated of narrative mappings being practiced today. Because they generally take as their subject deeply ambiguous (and often controversial) events and assimilate a good deal of data,

they suggest the best qualities these maps can provide – a complex narrative reconstructed, reinterpreted, and offered as a theoretical argument. *The New York Times* and *USA Today* are two frequent excellent sources of this sort of work – whenever there is a major crime or violent event or accident, they can generally be counted on to offer these as part of their coverage.

The first of two I want to consider is a masterpiece of narrative mapping – an account of the shooting of Amidou Diallo by four New York City policemen in 1999. While appearing to be an illustration, as with many good maps, important components are stripped away to reveal an underlying set of well-selected elements, which are laid out in terms of (spatial) location and (temporal) sequence.

This map says a lot about the forty-one bullets, including the distinction between shells and bullets, the guns they came from, the officers who fired them, and their ultimate destinations. Some aspects are speculative, such as "likely locations of each officer", and some material would appear to be extraneous, like the photographs of the officers (except of course that they serve as reminder that all four are white). The text information can be laconic in the extreme, such as the line in the lower right corner: "Additional bullets were recovered at the morgue." (Presumably they were extracted from the body.) Another common but effective technique is the use of the inset ("Inside the Vestibule"). This further narrativizes the presentation, offering multiple views of the event and also a kind of cinematic close-up – a traditional map technique merged with an equally basic cinematic convention.

The charts of "rounds available" and "rounds fired" (in two of the four cases they show the same sixteen bullets) also sits somewhere between information and editorial. It

is among the many non-photographic aspects of the construction, just as is the removal of all automobiles, though their locations are indicated. And, above all, the reconstruction captures the "all at a glance" quality again of good narrative maps. With the selectivity, reimagining, and editorializing, we see everything at once in a synthesis of space-time encapsulation.

6. Newspaper Reconstruction #2 [See Illustration 6]

A second example will be useful, to show temporality dealt with more explicitly. Here one event is broken into component parts, and then other similar events are mapped and accounted for. Also, two views of the same space (The White House and area around it) are offered. The sequencing of events (here numbered one to five) is a common method for introducing step-by-step order (a method not employed in the previous example). Some effort is usually made to place the descriptions of these moments close to where they occurred, though when not feasible (see number five) the description is still provided. Also, key incidents (such as the actual shooting) are not just described but depicted. Like a kind of comic strip or graphic novel played out over a map, this hybrid form seeks to approach its material through every means it can muster – illustrating what it thinks is essential, geographically mapping all its particulars in two views, and bringing in all relevant related events to indicate larger patterns. Ambitious, somewhat overreaching, and almost too-much-at-a-glance, one can see a new form coming into being.

A Final Example [See Illustration 7]

I have numerous examples of reconstructions and mappings within my two web sites:

Instrument of War: The True Story of the Yuba City Draft Board Murders
([www.cinema.ucla.edu\Mamber](http://www.cinema.ucla.edu/Mamber))

Center for Hidden Camera Research (www.cinema.ucla.edu\Mamber2)

The map here (from the Hidden Camera site) is mainly a timeline, but it is also a mapped selection of ten events in a day's video of a child and his nanny, taped by a hidden camera. Once again, the map becomes the interface, as the user can click to see the video segments in question.

Hidden camera footage is often so loose a collection of events (one can wait hours for something to happen) that providing a map can create a narrative. Rather than watch empty space for hours, a map can both situate events and lead the user to them. This is still quite different from narrative constructed through actual editing. It is perhaps closer to a database in this way too, with segments tagged for easy retrieval from the larger collection of video. Also, this kind of footage often requires extensive explanation, which is made available when the video is played.

When visual material is "free form" or on-going for extensive periods, mapping can provide overlays of narrative structure without forcing the viewer to accept these selections as the only possible method to access the material. Anyone wishing to draw upon larger amounts of the footage may do so. The maps provide what maps often do – a guide to the terrain, and paths available through it.

Some Brief Conclusions

Narrative mapping is a useful tool for dealing with complexity, ambiguity, density, and information overload. It offers possibilities for approaching and explaining ideas which would otherwise be difficult to express. It is an aid to visualizing, a guide, an interface, an analysis, a critical method.

What has been rather unsaid here but plainly in evidence is that digital environments greatly enhance the potential for narrative mapping, and also increase the need for it. 3D modeling, information graphics, and what has been called "multimedia cartography" all play a role in this new form. Many narrative works will contain mappings as a matter of course. (Much hypertext already does.) Almost every DVD, for example, comes with thumbnailed "chapter scenes" now, both to aid access and to provide an overview. When we walk into many planned exhibit spaces, such as malls, museums, and theme parks, the maps we are offered often have narrativized elements to them – bits of schedules, tables of contents, and diagrams to aid in orientation. As space itself is narrativized, so too the map.

Where narrative mapping can also play a significant role is in theorizing newly emerging narrative forms. While I think digital media provide the most challenging possibilities, existing forms also, of course, are undergoing change. To take one example, there has been a spate of contemporary films which are structured around retelling the same events.⁸ Narrative mapping can serve as a tool to chart differences between such versions, and also could be a way to allow a viewer to bring such differences more directly into proximity of each other. Even more importantly, perhaps, such mapping could be part of an analysis of the temporal notions at work in such films.

A further possibility yet to be explored is the temporalizing of narrative mapping itself: animating such maps so that they themselves unfold over time, perhaps in conjunction with the works they are mapping. The fluidity between the real and the virtual which we are finding in so many spheres is very strongly evident here. We will often have to ask: when is the narrative the map, and vice versa?

Notes:

¹ Thrower, Norman J. W., *Maps & Civilization : Cartography in Culture and Society* (University of Chicago Press, 1996), 218.

² It is the principal subject of Franco Moretti's book, *Atlas of the European Novel*, as we will discuss.

³ See, for example, Thrower, 95.

⁴ Moretti, Franco, *Atlas of the European Novel: 1800-1900* (New York: Verso Books, 1999), 131.

⁵ See Marta Braun's essential book, *Picturing Time*, for a full and valuable assessment of Marey's contributions.

⁶ Tufte, Edward R. *Envisioning Information*. (Cheshire, Connecticut: Graphics Press, 1990).

⁷ For more on *The Killing*, see Mamber, *Postmodern Culture*.

⁸ The films *Run Lola Run*, *Sliding Doors*, *The Family Man*, and *Go*, to name but a few.

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"Shooting Outside the White House", *USA Today*, December 21, 1994, page 4A.

Storr, Robert. *Mapping*. New York: The Museum of Modern Art, 1994.

"The Scene: A Carpet of Casings and Bullets", *New York Times*, December 10, 1999, page C21.

Thrower, Norman J. W. *Maps & Civilization : Cartography in Culture and Society*. University of Chicago Press, 1996.

Tufte, Edward R. *Envisioning Information*. Cheshire, Connecticut: Graphics Press, 1990.

Illustration 1:

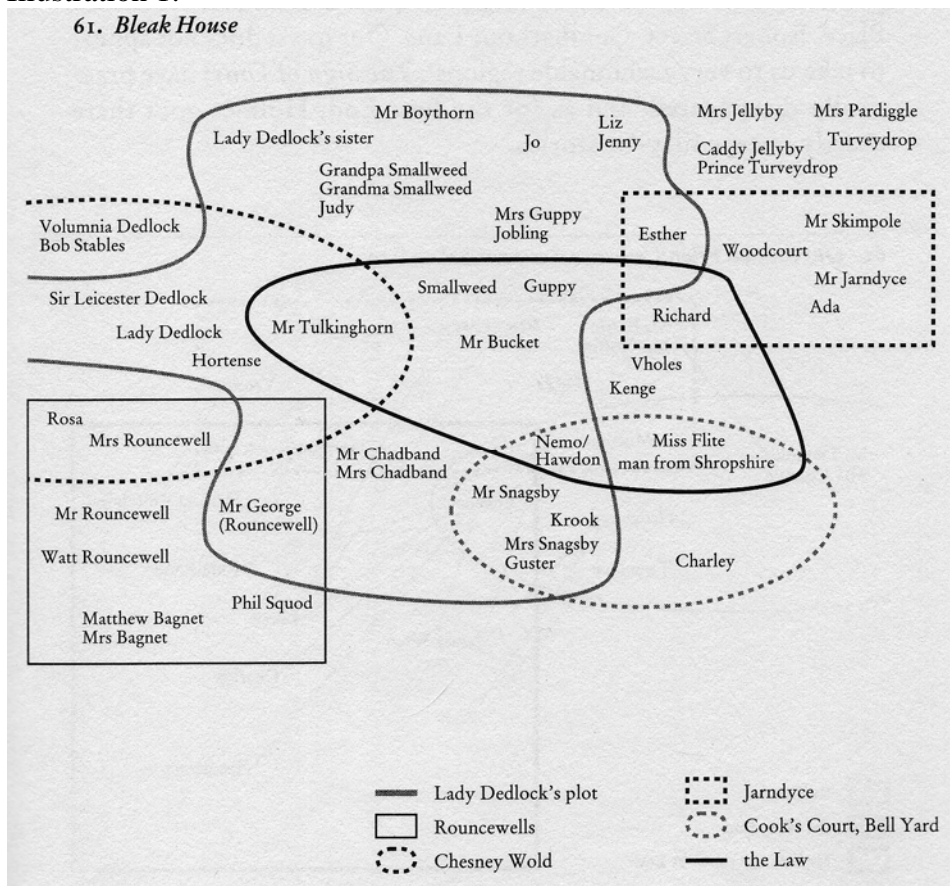


Illustration 2:

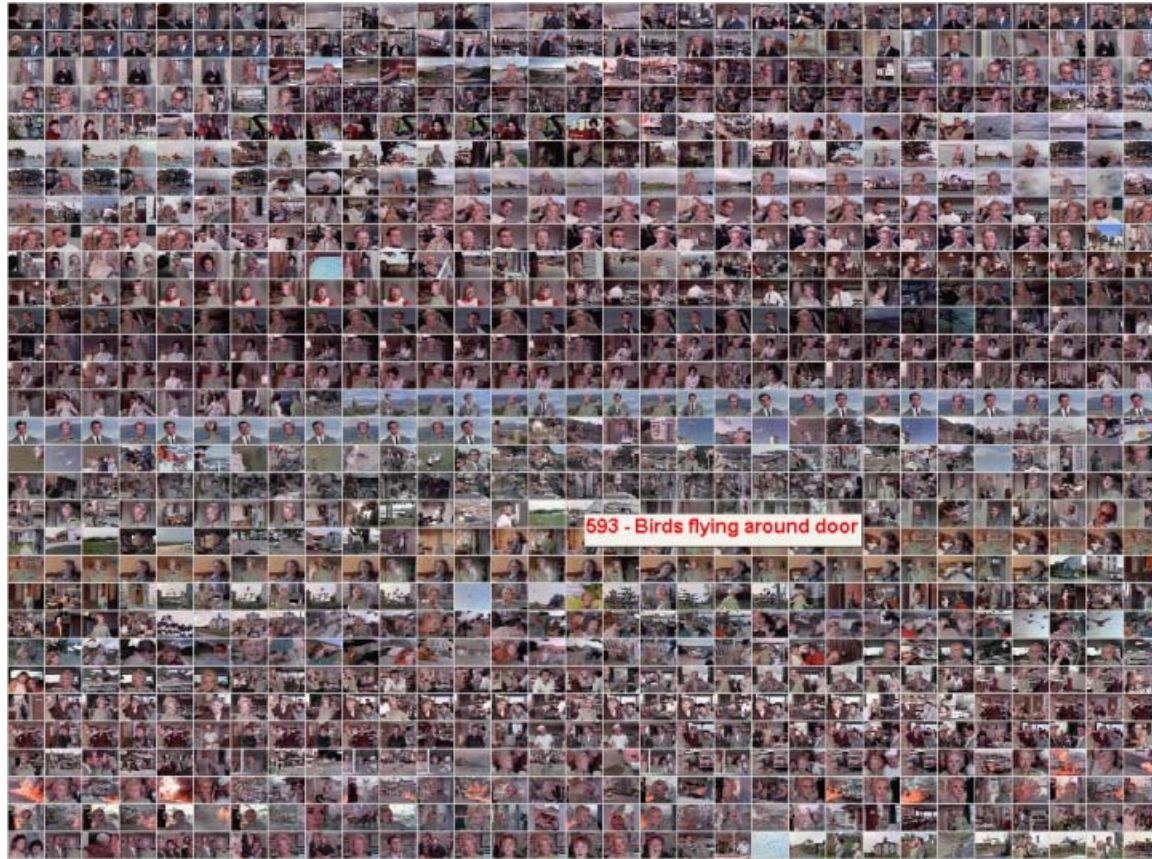


Illustration 3:

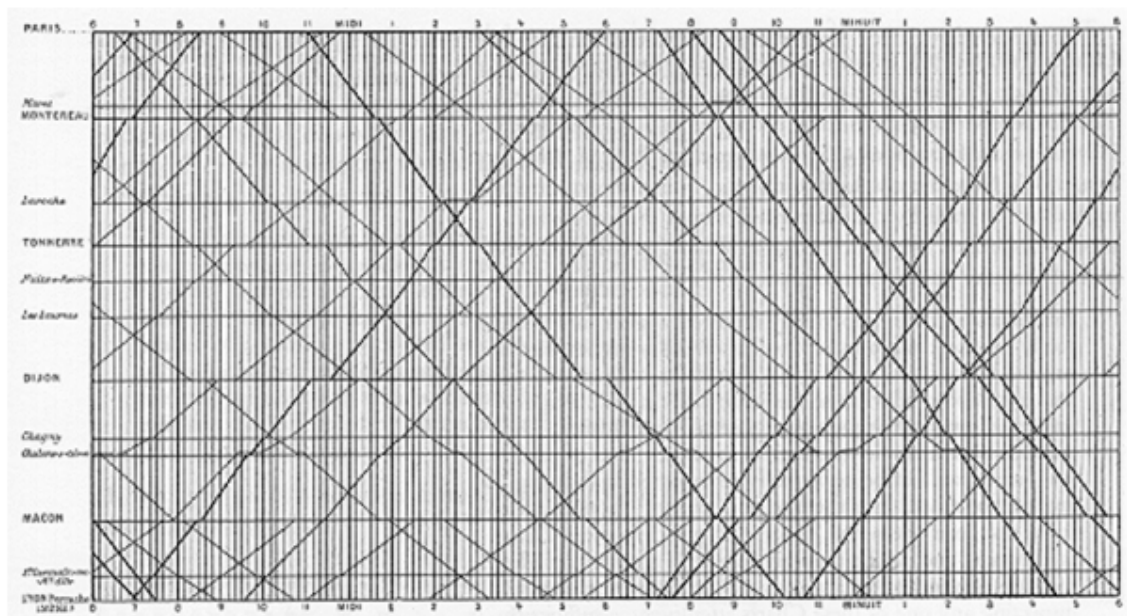


Illustration 4:

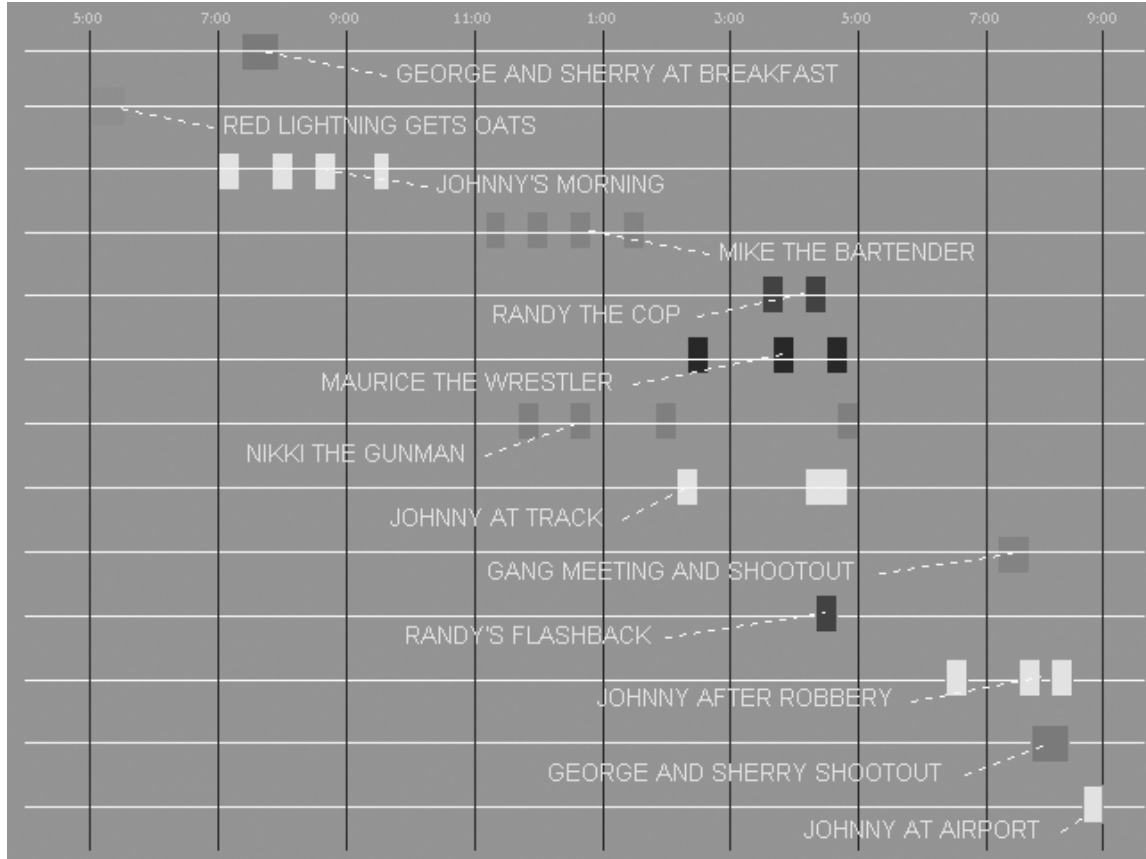


Illustration 5:

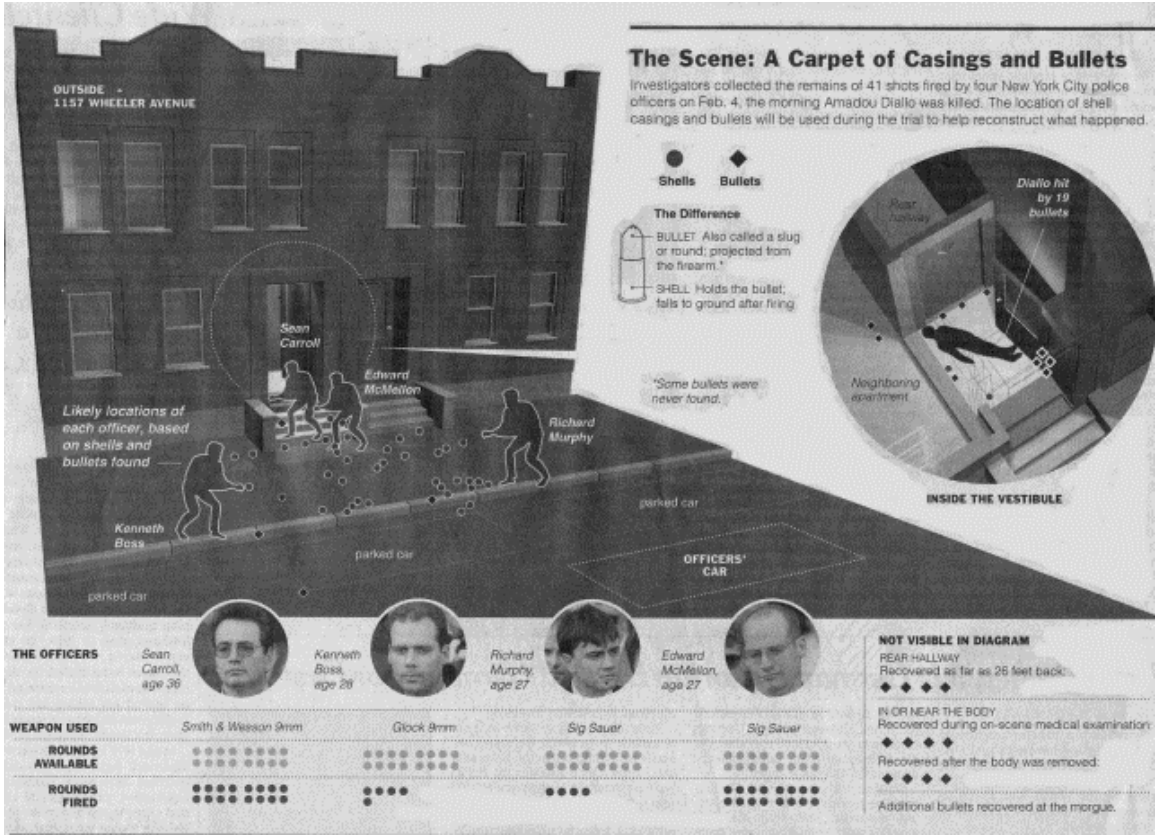


Illustration 6:

Shooting outside the White House

A homeless man was critically injured Tuesday morning on the sidewalk outside the White House, the latest incident there in the past four months. What happened:

- 1** U.S. Park Police roust Marcelino Comiel, 33, and other homeless people in Lafayette Park. Witness says Comiel was shouting "I'm going to get you."
- 2** Armed with a knife, Comiel rushes across Pennsylvania Avenue toward a Park police officer about 9 a.m.
- 3** On sidewalk, several officers order him to drop weapon.
- 4** Police fire two shots.
- 5** Comiel taken to George Washington University Hospital, where President Reagan was treated after he was shot.

The four incidents

Sept. 13: A small plane piloted by a Maryland man crashes into White House grounds just yards from the Oval Office about 2 a.m. Pilot dies in crash.

Saturday: Four 9 mm bullets are found on White House grounds after shots reported about 2 a.m. One enters state dining room through a window.

Tuesday: Park police critically wound Marcelino Comiel, 33, a homeless man who brandishes a knife at them.

Oct. 29: Gunman Francisco Martin Duran, 26, from Colorado Springs, Colo., sprays White House with 29 rounds from a semi-automatic weapon about 3 p.m.

Lafayette Park

15th St. closed to vehicle traffic

White House, Oval Office, Press office, North Lawn, Exit, Entry, Pennsylvania Ave., Lafayette Park

Sources: USA TODAY research, The Associated Press

Illustration 7:

The screenshot displays a web interface for 'NANNY CAM'. At the top left, the text 'NANNY CAM' is written in a large, stylized font. To its right, a button labeled 'PICK A NANNYCAM CLIP' is visible, followed by a counter showing '0 of 760'. Below the title, a central instruction reads: 'CLICK ANY THUMBNAIL ON THE TIMELINE FOR A NANNYCAM VIDEOCLIP AND ANALYSIS'. On the left side, there are two vertical buttons: 'CAST OF CHARACTERS' with a photo of two people, and '3D MODEL OF THE SCENE' with a 3D room model. The main area features a video player showing a living room scene with a timestamp 'JUN 26 1998 10:07:54' and playback controls. Below the video is a detailed timeline from 10:00 to 2:00. The timeline is divided into two segments: 'NANNY ARRIVES' (10:00-11:00) and 'BABY WAKES UP' (11:00-2:00). Various event thumbnails are placed along the timeline with their corresponding timestamps and descriptions: 10:07:19 (EMPTY SPACE, AIRPLANES, VOICES, PHONE RINGS), 10:21:36 (DONT WATER THE PLANTS), 10:52:36 (LETTING THE CAT IN), 11:02:27 (WHAT'S THE NANNY DOING!), 11:22:39 (BREAKING THE PICTURE FRAME), 12:47:27 (BABY AND THE NANNY), 12:48:51 ("AYTON"), 01:40:37 (BABY WATCHING TELEVISION), 01:44:28 (BABY INVESTIGATING), and 01:54:41 (BABY HAVING LUNCH). A small 'NANNY CAM' logo is located in the bottom right corner of the interface.