

Renzo Mocini

# The Narrative Dimension of Medical Case Reports

## Abstract

*A medical case report is a written scientific text which describes and discusses the symptoms, signs, diagnoses, treatment and follow-up of a patient presenting with a pathological condition. It is a valuable genre of specialised literature that makes a vital contribution to the dissemination of medical knowledge. From a didactic point of view, case reports offer an excellent opportunity for prospective healthcare providers to publish reports of rare, unusual or relevant cases drawn from their medical practice. The aim of this paper is to show how the meaning of medical case reports is grounded in a narrative-type “generative” mechanism. Drawing on functional categories and using a semio-narrative approach of Greimasian origin, I shall try to foreground those “constant, essential, formal and abstract characteristics of the story that are more or less hidden both in the textual products that anyone would indicate as narrative, and, in general, in any type of discourse even apparently very distant and different from the actual tales” (Marrone 2011, 23). The analysis seeks to show how even a “dry” scientific text can be read as a story capable of engaging readers, especially novice members of the medical discourse community who, by delving into the deep mechanisms that generate the text and its meaning, may emulate the art of case-report writing.*

**Keywords:** case reports, semiotic, narrativity, medical discourse, functional analysis

*The text, in its mass, is comparable to a sky, at once flat and smooth, deep, without edges and without landmarks; like the soothsayer drawing on it with the tip of his staff an imaginary rectangle wherein to consult, according to certain principles, the flight of birds, the commentator traces through the text certain zones of reading, in order to observe therein the migration of meanings, the outcropping of codes, the passage of citations.*

(Roland Barthes, *S/Z*)

As Lysanets et al. (2017, 83) claim, “within the framework of written medical texts, case reports are traditionally classified into one of the major groups of medical discourse (along with research papers, review articles, and editorials).” To the best of my knowledge, despite the vital contribution the medical case report (hereinafter MCR) makes to the dissemination of

healthcare research findings, this genre of specialised literature has not as yet received the same degree of attention from linguists as other genres like the scientific research article. Given the central role the MCR plays in clinical research, it is fundamental that future healthcare providers become so passionate about this genre that it can help them acquire the writerly craft indispensable for efficacious professional communication. Rather than focusing on the format and stylistic features of its highly codified configuration (title, abstract, introduction, case presentation, discussion, conclusions, and references), this paper investigates how an MCR exploits its narrative dimension to forge its meaning. Therefore, using a semio-linguistic approach I shall try to bring to light the deep strata of significance: “those constant, essential, formal and abstract characteristics of the story that are more or less hidden both in the textual products that anyone would indicate as narrative, and, in general, in any type of discourse even apparently very distant and different from the actual tales” (Marrone 2011, 23).<sup>1</sup> The key point this analysis wishes to make is that “dry” scientific texts, despite their technicalities, should be as accessible as other narratives and capable of motivating their target readership to use them as models for professional written production. In other words, an MCR should be so engaging that readers, both seasoned professionals and prospective healthcare providers, by delving into the profound mechanisms that generate the text and its meaning, may enjoy reading it and, especially in the case of future medical professionals, emulate the art of case-report writing.

## 1. Data and analytical framework

The semio-linguistic analysis conducted here is based on a corpus of MCRs which I have used and continue to use during my lessons at the Sapienza University of Rome, Faculty of Medicine and Dentistry. The sample is small<sup>2</sup> but representative and capable of “constructing a simulacrum of the observed objects” (Barthes 1967, 84). The subjects of the texts vary,<sup>3</sup> as the topics are based either on the specific interests of the students attending the lessons or linked to certain “state-of-the-art” medical issues.

The approach opted for is grounded in theories of ‘narrativity,’ an organisational principle of meaning that permeates all and every kind of discursive genre. In keeping with the semiotics

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<sup>1</sup> My translation.

<sup>2</sup> At the moment of writing this article (November 2021), the corpus included 50 case reports downloaded from PubMed Central, a free digital repository developed by the National Center for Biotechnology Information including open access full-text scholarly articles that have been published in biomedical and life sciences journals. See <https://www.ncbi.nlm.nih.gov/pmc/>. Last visited 22/01/2022. The case reports included in the corpus cover the period from 2017 to 2021.

<sup>3</sup> From COVID-19 to other infectious diseases, from neoplasms to surgical procedures, etc.

of Greimasian heritage (Greimas 1966, 1970; Greimas and Courtés 2007), all discursive texts are organised in narrative form, similar to that of a story. This storytelling pattern envisages a Subject,<sup>4</sup> i.e. a protagonist, who/which is disjoint from (or conjoint with) an Object of Value with which s/he endeavours to conjoin (or disjoint). Whether it be a prince charged by the king to free the princess kidnapped by the ogre, or the story of a doctor or a group of medical researchers who strive to find a remedy for a pathological condition, the underlying scheme remains very much the same. What actually changes is the figurative manifestation at the surface level of the text attainable by means of diverse expressive substances which, in the case of the genre analysed here, is mainly written language.

To achieve this conjunction (or disjunction),<sup>5</sup> the Subject carries out a series of actions which constitutes a Narrative Programme.

This programme of actions is based on the ‘actantial’ model. In semiotic terms, the Subject and Object of Value are, in fact, called ‘actants’ since they are not necessarily characters featuring in the story, but structural elements around which the narrative revolves and which belong to the semio-narrative level, that is, to the level underlying the linear and mutable manifestation of a text:

an actant may embody itself in a particular character (termed an *acteur*) or it may reside in the function of more than one character in respect of their common role in the story’s underlying ‘oppositional’ structure. In short, the deep structure of the narrative generates and defines its actants at a level beyond that of the story’s surface content. (Hawkes 1977, 99)

Inspired by Propp’s (1928/1990) scheme of the Morphology of the Fairy Tale, which constitutes the starting point of most of the subsequent narratological schools, and although he reduces the number of *dramatis personae*, Greimas (1966) identifies, in addition to the Subject (who performs the action) and the Object of Value (the goal of the action), two additional pairs of actants: the Helper (who assists the Subject), the Opponent (who hinders the Subject) and the Sender (who instigates the action at the beginning of the narration and, at the end of the story, judges the result of the action/s carried out). As Bertrand (2002, 31) puts it “The Sender possesses *knowledge* (he acts as instigator) and *power* (he exercises a sanction)”<sup>6</sup>

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<sup>4</sup> Terms in the narrower Greimasian sense will be capitalized.

<sup>5</sup> One should note that in a story a Subject may be initially conjoined with an Object of Value from which s/he seeks to be disjointed. For example, a criminal who wants to get rid of an instrument of crime.

<sup>6</sup> My translation. Italics in the original.

The Narrative Programme is organised according to a recurring scheme, a basic narrative structure called Canonical Narrative Scheme and consisting of four narrative phases: Manipulation—Competence—Performance—Sanction. During the Manipulation phase, the Subject is convinced (‘manipulated’ in semiotic language) by someone or convinced by her/himself to undertake a series of actions to achieve a goal, represented by the Object of Value. Desires and/or duties are triggered in the Subject so that s/he is willing to place her/himself in a situation whereby s/he can reach her/his goal. The need to succeed urges her/him to draw up and undertake a certain plan of action. The instance or instigator of this manipulation is the Sender. During the Competence phase, the Subject needs to acquire the competences to implement her/his Narrative Programme. These competences may be practical, cognitive or emotional, or a mix of all three. The Performance, on the other hand, is the task to be carried out, the problem to be solved, the mission to be accomplished. At this stage, the Subject may avail her/himself of Helpers and/or confront Opponents. Then, during the final phase, the action of the Subject is judged by the Sender of the Narrative Programme and may receive a positive or negative sanction based on the values of the reference universe to which the Sender belongs and in which the Subject believes.

It is essential to note that, in addition to the aforementioned actants operating at utterance level, a narrative discourse always presents two further actants belonging to the enunciational level: the Enunciator and the Enunciatee. The Enunciator and Enunciatee are defined as actants of the enunciation, that is, as performers that play the interactive roles of the producer and user of the discourse, respectively. Depending on the narrative in question, they may also act syncretically as Senders and/or Subjects, that is, as actants of the utterance.

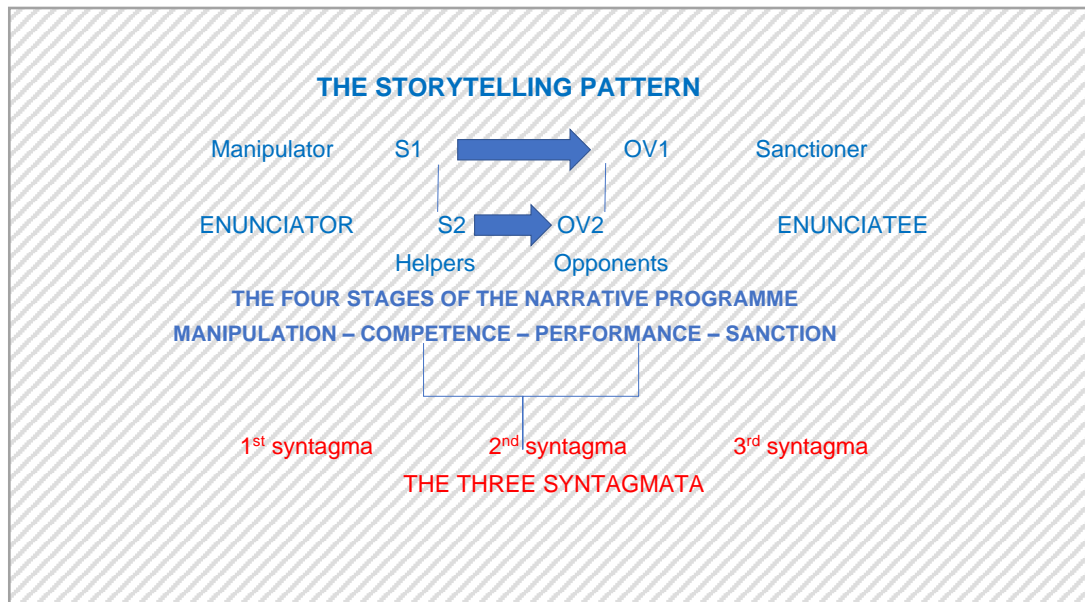
In an attempt to reconstruct the route followed by meaning, from the deep narrative structure to the surface-level linguistic manifestation of the text, the conceptual apparatus and analytical categories of Systemic Functional Linguistics (Halliday and Matthiessen 2004) will be used to show how the Enunciator takes charge of the semio-narrative level and translates it into a complex of choices within the lexico-grammar level.

The examples used to conduct the analysis were chosen from a number of different MCRs according to the “principle of pertinence” (Marrone 2017, 32), that is, the semiotic mechanism used to select elements relevant to the analytical approach adopted because of their ability to portray the transition from the narrative scaffolding underlying the story to its surface level achieved through the mechanisms of actorialisation, spatialisation and temporalisation.

## 2. The narrative of medical case reports

The MCR is configured as the story told by an Enunciator. This is the textual construct of the researcher (more often than not a team of researchers), who describes the quest for an Object of Value, consisting in the clinical knowledge concerning the diagnosis, condition, and treatment of a pathology often showing an unexpected and unusual presentation. The protagonist of this pursuit is a Subject, which in an MCR, characteristically coincides with that of the Enunciator. The receiver of the narrative is an Enunciatee, the textual figure of the scientific community, in particular that group of medical researchers to which the Enunciator belongs and which operates within the specific medical field s/he is dealing with.

Formalising this story in Greimasian terms, we might say that the MCR, like any other story, consists in a transformative action that leads a Subject to seek conjunction with an Object of Value. As we continue this analysis, we shall see that there are actually two protagonists, Subject 1 and Subject 2 (hereinafter S1 and S2), each of whom implements different narrative plans, each one with her/his Object of Value (hereinafter referred to as OV1 and OV2, respectively). Figure 1 below is the graphic representation of the storytelling pattern of an MCR based on the three narrative syntagmata that reproduce the phases of the Canonical Narrative Scheme aimed at the realization of the basic Narrative Programme.<sup>7</sup>



**Fig. 1:** Graphic representation of the storytelling pattern of an MCR

<sup>7</sup> In linguistics, a syntagma is an elementary constituent segment within a text. By analogy I use the phrase 'narrative syntagma' to refer to each of the narrative phases that are in a sequential relationship to one another and form the backbone of the story.

The second syntagma that encompasses two phases of the Narrative Programme (Competence and Performance) deals with a diegetic content chronologically earlier than the beginning of the main narrative.

### **2.1 The first narrative syntagma: manipulation**

In order for the Narrative Programme of the MCR to be realized, the Subject must be motivated to undertake a mission. In semiotics, the instance of this manipulation is represented by the Sender, an actantial role which in an MCR is played by S1 her/himself who, prompted by a keen thirst for knowledge regarding a specific topic and on behalf of the medical community by which s/he feels empowered, strives to fill an information gap to improve clinical practice. S1 also acts syncretically as Enunciator. Driven by the originality and authenticity of the case s/he is preparing to recount and aware of the educational value conveyed by her/his narration, the Enunciator-S1 organises her/his discourse to manipulate the Enunciatee whom s/he is addressing and from whom s/he wishes to obtain approval or sanction. Sanction means being acknowledged by the medical-scientific community for having provided an incremental advance in a specific field.

The first narrative syntagma of the MCR acts as an introductory prologue where S1 is *modalised* according to ‘wanting to do’ and ‘being unable not to do.’ At a more superficial textual level, this *modal* device will find expression in a series of constative and evaluative utterances aimed at identifying and ascribing values to OV1 with which S1 strives to conjoin. The Enunciator exploits this first syntagma as an extradiegetic narrative space within which to carry out a set of cognitive moves to justify the importance of the topic dealt with that constitutes OV1. This form of manipulation is frequently achieved through the lexico-grammatical resources of relational clauses employed especially in the *incipit* of the narrative to identify, classify, characterise and assess a specific medical topic in terms of originality and uniqueness:

- (1) Leiomyosarcoma of the stomach is a malignant tumor that originates from the stomach. Leiomyosarcoma of the stomach *is* extremely *rare*,<sup>8</sup> and most cases reported in the “pre-KIT era” as leiomyosarcomas of the stomach *were* actually gastrointestinal stromal tumors (GISTs) of the stomach.<sup>9</sup>

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<sup>8</sup> Here and in the following examples the italics is mine.

<sup>9</sup> All the examples taken from the corpus are numbered in order of appearance. Details of the sources are provided in the journal-reference section at the end of the study.

Example (1) contains three relational clauses revolving around the typical process *be*. The first and second clauses are attributive intensive-type relational clauses. The former realizes class-membership: there are other malignant tumours that originate from the stomach and one of them is Leiomyosarcoma. The latter qualifies the pathology in terms of unusualness through the attribute *rare* which implicitly conveys the idea of a little-explored terrain that needs to be investigated. The third clause in (1) is an identifying relational clause which helps fix the identity of Leiomyosarcoma of the stomach through reference to its misdiagnosis before the advent of KIT immunohistochemistry.

Besides the default verb *be*, other equative verbs are used as processes in identifying clauses introducing the new knowledge at issue, like *represent* (2) and *define* (3).

- (2) To the best of our knowledge, this manuscript *represents* the first published report of an autopsy performed on an HIV infected patient with cause of death attributed to COVID-19.
- (3) Primary bone lymphoma (PBL) is a less frequent type of extranodal lymphoma, which is *defined* as a single skeletal tumor or multiple bone lesions without visceral or lymph node involvement.

The possessive verb *have* can also act as a process in an attributive clause (4). In this case what is possessed is considered a feature or an attribute assigned to the entity to which it refers. One can also notice how the manipulative action of the Enunciator leverages several attributes capable of contributing to the construction of OV1: the rarity of the pathology, the severity of the prognosis as well as the urgency due to the fact that no therapies are currently available. For this reason what is about to be narrated is so urgent that it cannot be postponed:

- (4) Progressive multifocal leukoencephalopathy (PML) is a *rare* central nervous system disease, resulting from reactivation of latent John Cunningham (JC) virus. It is a demyelinating process that may be isolated or, more often, extensively involve both hemispheres. It has a *poor clinical outcome; no effective therapy is currently known*.

As is clear from the examples provided above, in the manipulative phase, the Enunciator operates primarily by means of the ‘cultural code’ of science to construe OV1. As Barthes (1974, 20) explains, the cultural code designates any element in a narrative that refers “to a science or a body of knowledge [be it] physical, physiological, medical, psychological, literary, historical, etc.” This way the Enunciator also outlines the cultural profile and the scientific background of the Enunciatee by pointing out possible scientific lacunae on her/his part (*poorly understood*).

The narrating voice is merged with the voice of the experts in the field by linking the text to the external dimension of the knowledge shared regarding a specific topic, including that characterised by diverging views (*a matter of debate*):

- (5) Extragonadal germ cell tumors (EGGCTs) are uncommon neoplasms, which arise in anatomical locations other than gonads. The pathogenesis of these neoplasms is still *poorly understood* and it is *a matter of debate* if they really represent extragonadal primary neoplasms or rather extragonadal metastasis from occult gonadal neoplasms.

The first syntagma ends with a prolepsis<sup>10</sup> marked, at discourse level, by the transition from *utterative disengagement*<sup>11</sup> characterising the manipulative phase to *enunciative disengagement*. The instance of the enunciation (*We*) enters the diegetic space, acting as the explicit source, or Sayer in Hallidayan terms, in verbal clauses revolving mainly around the performative verb *report*:

- (6) In this article, *we report* a case of complete removal of the implant and then removal of the broken guidewire by combining the use of a cannulated reamer & Codman's discectomy forceps.

Here Verbiage, that is what is said, frames another secondary Narrative Programme called 'of Use' as it is functional to the implementation of the basic Narrative Programme. The protagonist is, in this case, a second subject, S2, to distinguish it from the Subject of the main narrative thread (S1). S2 will achieve discursive realization in the actorial figure of the patient around whom and upon whom a series of actions will be performed and the outcome of which determines the acquisition of competence by S1.

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<sup>10</sup> Prolepsis designates "any narrative manoeuvre that consists of narrating or evoking in advance an event that will take place later, designating as analepsis any evocation after the fact of an event that took place earlier than the point in the story where we are at any given moment, and reserving the general term anachrony to designate all forms of discordance between the two temporal orders of story and narrative" (Genette 1980, 40).

<sup>11</sup>In the Dictionary, Greimas and Courtés (2007) assert that two distinct types of disengagement (*débrayage*) exist: enunciative disengagement (*débrayage enunciative*) and utterative disengagement (*débrayage énoncif*). The former refers to the projection into the utterance of simulacra of the subject of the enunciation, the latter relates to the projection of subjects other than those of the enunciation (not involving the protagonists of the enunciation directly), as is the case with impersonal discourse.



## ***2.2 The second narrative syntagma: competence and performance***

The prolepsis of the end of the first syntagma acquires a clear liminal value since it marks entry into a different space. As Greimas and Courtés (2007) pointed out, every narrative transformation involves a new spatial framework. Likewise, at a deeper semio-narrative level, the narrative of an MCR unfolds across various *topoi* which, at surface discursive level, may correspond to a number of specific places. While the manipulation phase of the first syntagma takes place in the *heterotopic* space,<sup>12</sup> that is, in the ‘familiar’ space of ‘here’ which, in an MCR may be the laboratory or the surgery where the researcher circumscribes and frames the presentation of the case investigated, the second syntagma spreads over the *topical* space of ‘there,’ the space of the ‘elsewhere’ which incorporates both the *utopian* space where the performance is enacted and the *para-topical* space where competence is acquired. When translated figuratively at discourse level, this space often coincides with that of a clinic, a hospital, an Emergency Department, where several actions and transformations take place. But it is also the *locus* where the skills of ‘knowing how’ and ‘being able to do’ are acquired accumulatively. The narrative model of the MCR then departs from the traditional organisation of the Canonical Narrative Scheme. While in the canonical fairy tale, which inspired Greimas’ model, the competence belongs typically to the inchoative stage, located as it is at the beginning of the entire narrative, before the performance, even if the approach to it is progressive, in an MCR the two narrative phases, competence and performance, occur simultaneously.

This new spatial framework also involves a shift of the temporal axis. The narrative technique adopted in the second syntagma is that of the story within a story. Indeed, by comparing the order in which the events are arranged in the narrative discourse with the order in which these same events have in the story, the second narrative syntagma takes the form of an analepsis the extent of which remains beyond the reach of the first-level narrative unfolding in the first and third syntagmata.

An initial triple *disengagement*,<sup>13</sup> actorial (*28-year-old woman/normally fit and well 22-year-old woman with*), temporal (past: *presented*) and spatial (*Emergency Department*), typically marks the incipit of the second analeptic narrative syntagma:

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<sup>12</sup> In the Proppian fables which inspired Greimas, the heterotopic space is that of normal life (e.g., the palace to which the prince is summoned). The topical space is sub-divided into utopian, that is a place separate from everyday life (e.g., the dragon’s cave), the para-topos that often coincides with an intermediate place (the forest for example) which needs to be ‘crossed’ before entering the utopian space.

<sup>13</sup> In keeping with Greimas and Courtés (2007), it is possible to speak of actantial disengagement (*débrayage actantiel*) when there is a disjunction between the subject of the enunciation and the subject of the utterance: the subject of the utterance is a ‘not I,’ while the subject of the

- (7) A 28-year-old woman presented to the Emergency Department complaining of spontaneous and persistent gingival bleeding not precipitated by trauma.
- (8) A normally fit and well 22-year-old woman with no medical history presented to the Emergency Department of a large inner city teaching hospital complaining of a 3-week history of headache, neck stiffness, rigours, confusion, and a new purpuric rash over her hands and feet.

At this point, it is appropriate to recall the distinction between actor and actant. As Greimas explains (1987), an actor refers to the real character that appears in a narrative, while an actant is a structural function that can be fulfilled by one or more actors. Therefore, an actor can be viewed as “a meeting point and locus of conjunction for narrative structures and discursive structures, for the grammatical and the semantic components” (Greimas 1987, 120). As the narrative of the MCR unfolds, the actorial isotopy takes shape through a series of clauses revolving around material (*taking/consume*) and mainly relational processes, either intensive (*was*) or possessive (*had*). The portrayal of the actor/patient is thus progressively delineated and acts as the figurative conversion, at discourse level, of actant S2 who seeks to conjoin with OV2 representing the solution of a clinical condition:

- (9) The patient *was* a primigravida in her second month of pregnancy. Her medical history *was* unremarkable [...]. She *was not taking* any medication. She *had* no known medication allergies. She *was* a non-smoker and did not consume alcohol.

The Enunciator-S1 assumes the role of narrator, telling the clinical story of an actor/patient undergoing an entire set of examinations and treatments to come to terms with a health problem. More than an acting subject, the actor realizes the actantial role of S2 who ‘is acted upon.’ Hence a highly frequent use of the passive voice:

- (10) After adequate resuscitation CT *was arranged* [...]. At laparotomy, fluid, pus and free intestinal contents *were seen* in the abdomen, and a complete disruption of the low colorectal anastomosis *was noted*, which required Hartmann’s procedure and formation of an end colostomy [...]. The patient *was discharged* home from hospital on the 25th postoperative day.

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enunciation is hidden. We can also have a temporal disengagement (*débrayage temporel*), that is the projection on the utterance of a ‘not now,’ and a spatial disengagement (*débrayage spatial*), that is ‘not here.’

The events are recorded by the Enunciator-S1 acting as a *homodiegetic*<sup>14</sup> narrator, witness to the story told, who collects reactions and data and becomes progressively competent regarding the know-how that will allow her/him to ‘conjoin’ with the targeted medical knowledge capable of providing an answer to the initial clinical issue. At times (11), the Enunciator-S1 assumes an *autodiegetic*<sup>15</sup> narrative status (*Our*) taking upon her/himself and her/his team the onus of setting up therapeutic regimens, deciding hospitalisations, discharges, and diagnostic procedures:

- (11) *Our* preoperative workup included an MRI of the cervical spine, cervical X-rays, electromyography (EMG) and blood tests.

In keeping with Barthes (1974), we can say that in the second narrative syntagma the ‘proairetic code’ prevails, with a series of actions to be undertaken. Each action has a beginning, a development and an outcome. The proairetic code operates at the level of expectations: an action or series of actions are carried out and some result is expected:

- (12) The patient was started on 3 weekly chemotherapy based on cisplatin, etoposide, and bleomycin (PEB). Following three courses of PEB, CT revealed a significant reduction in size of the mass and liver nodules. AFP was 10.1 ng/ml.

The narrative construction is strongly performative, resting on a basic pattern such as starting intuition/hypothesis, action, and resulting situation:

- (13) Under suspicion of a newly diagnosed AIH, immunosuppressive therapy with an initial steroid dose of 100mg prednisolone for 3 days was started. Steroids were tapered down slowly by scheme to 12.5 mg/d prednisolone conservation dose per day. This resulted in a rapid decrease of AST while decrease of ALT-values was significantly delayed.

At discourse level, the patient’s body realizes the actantial role of the Informant, like other common non-human Informants (such as ultrasound, lab tests, etc.). Simultaneously, they all act syncretically as Helpers since their goal is also the construction and accumulation of knowledge:

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<sup>14</sup> In this case the narrator is ‘homodiegetic’ as s/he “plays only a secondary role, which almost always turns out to be a role as observer and witness” (Genette 1980, 245).

<sup>15</sup> The word ‘autodiegetic’ refers to “the strong degree of the homodiegetic” (Genette 1980, 245), that is the narrator is the protagonist of the narrative.

- (14) Also from this X-ray, we are able to note the previous surgery that was carried out on the left side in early December 2012.

Additionally, the Enunciator-S1 fulfils the actantial role of Observer when trying to enable us to see what s/he considers important or worth considering. The Observer's function also implies that of a point of view, that is, one assuming and producing a certain reading of the data that gradually emerge. The Observer assumes, therefore, the task of 'letting people know.' By choosing to consider some aspects of what is deemed relevant and acting as a cognitive filter, s/he dwells on some details and glosses over others. As a result, both the Informer and Observer are two cognitive actants functional to the progressive acquisition of knowledge. Their presence at discourse level is linguistically expressed by means of identifying clauses centred around processes expressed verbally as *show*, *suggest*, *reveal*, *indicate*, typical of a register "where the meanings that are being construed are inherently symbolic ones" (Halliday and Matthiessen 2004, 234):

- (15) Ultrasound performed by a maternal-fetal medicine specialist *showed* a fetus with a bowed femur and short humerus.
- (16) Following three courses of PEB, CT *revealed* a significant reduction in size of the mass and liver nodules. AFP was 10.1 ng/ml. Laparotomy revealed mass on the lesser curvature of the stomach of size 5 cm × 4 cm near the GE junction.
- (17) On day 25, our patient tested SARS-CoV-2 positive by real-time PCR (RT-PCR), with a low cycle threshold (Ct) value *indicating* high virus load.

The path to successful acquisition of knowledge is clustered with impediments which make the polemic nature of the narrative perceptible. In his approach to OV2, S2 will have to deal with different Opponents, realized linguistically by various entities introduced via circumstantial expressions of reason:

- (18) *Due* to extreme daily volume fluctuations of the residual limb, a conventional, laminated thermoplastic socket fitting was not feasible.
- (19) A visual controlled opening of the stenosis was impossible in 3 cases *due* to a too narrow presaccal anatomy (n = 1), an osseous duct stenosis (n = 1), and a bulging membrane of Hasner into the inferior nasal meatus (n = 1).

- (20) The patient was advised to undergo surgical treatment using percutaneous endoscopic lumbar discectomy; however, he declined *because of* fear of surgery.

The second syntagma ends with the *glorifying trial*, or the final act of the performance. It brings into play the skills acquired progressively and which have led to the outcome deemed worth narrating. The success of the Narrative Programme of Use involves the conjunction between S2 and OV2. In (20), the actor-patient of the embedded story, S2, achieves conjunction with OV2 as he manages to recover from large disc herniation without being operated but by receiving appropriate physiotherapeutic manoeuvres, NSAIDs and low-intensity transcutaneous electric neuromuscular stimulation.

It is necessary to take into account that not all stories have a happy ending. Shakespeare's plays are an eloquent, though by no means exclusive, example of this dual possibility. While comedies and tragedies, like medical conditions, present a critical situation at the beginning and may even follow similar pathways, the difference lies in how they are resolved. The crisis that drives comedies is solved positively, while tragedies end badly and usually with the death of the protagonist at least.

At the end of this phase of the narration, S1 and S2 leave the utopian space. They might return to monitor the positive or negative effects of the glorifying trial, which, in medical practice, is known as 'follow-up.' The follow-up might be seen in narrative terms as the conclusion of the main plot. Although the formula with which many traditional fables concluded was 'they lived happily ever after,' in other narratives the reader is given an update of events after the resolution of the crisis which characterised the plot. Many eighteenth-century and nineteenth-century novels, for example, having brought the protagonists to their glorifying trial, gratify the 'and then what?' question many readers might have asked by providing a short synopsis of the 'ever after.' One famous example of this kind of postscript is the one Charlotte Brontë wrote to *Jane Eyre* beginning "READER, I married him" (1993, 473).<sup>16</sup> In the extract from an MCR provided below (21), the concluding remark *The patient was monitored for another 8 months and lumber spine MRI revealed no recurrence* may be considered as the epilogue of the story:

- (21) After receiving the third ESI [epidural steroid injections], the patient's pain subsided, and he was discharged. He was followed-up intermittently at our outpatient department, and the symptoms persisted. Four months after he was discharged, *his symptoms improved considerably*. Two years later, the patient visited our department and stated that he had *no symptoms of low back pain or sciatica*. A second MRI was

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<sup>16</sup> The word 'reader' is capitalized in the original text.

performed, revealing regression of the L5/S1 disc herniation (Figure 1b). The patient was monitored for another 8 months, and lumbar spine MRI revealed *no recurrence*.

One should also note the rapid pace and cadence that marks the way a story arrives rapidly at its conclusion. At discursive level this rapidity is conveyed by the anisochrony existing between the diegetic temporality (the events of the story) and the temporality of the narrative, meaning that a few swift lines may account for a time span of days, months, years. With reference again to (21), rapidity of conclusion is achieved thanks to numerous temporal ellipses both explicit (*Four months after/Two years later*) and implicit (*A second MRI was performed*), which discursively translate the glorifying trial and determine a double conjunction. The success of the Narrative Programme of Use also determines the success of the basic Narrative Programme with S1 enabled to join OV1, meaning that new medical knowledge has been acquired.

Crucially, awareness of having discovered something unexpected or of not having achieved an expected result, the success or failure of a therapy, is what prompts researchers to write MCRs. Both outcomes are made public because they are deemed by the Enunciator to be of use to the medical community. This means that often, even a non-success may be the topic of an MCR. The conviction that something is worth narrating is the origin of the semiotic pathway of the MCR: a Subject becomes Enunciator, her/his discovery, unexpected reactions and/or the observations provoked by the events dissolve into narration.

### ***2.3 The third narrative syntagma: the quest for sanction***

The final phase of the sanction is not fully achieved but simply foreshadowed. Furthermore, not all the moments of the Canonical Narrative Scheme need to be present in a text narrated as a story, since even “if it is rather frequent that in a fairy tale all four narrative moments may be actually told one after the other, it is highly likely that in other types of text or in other narrative situations some stages of the action may simply be alluded to” (Marrone 2007, 77).<sup>17</sup> In the third syntagma the Enunciator-S1 puts her/himself ‘on trial’ as it were, to be judged by the Enunciatee/Sanctioner, the actantial figure of the scientific community which ‘passes sentences.’

Having left the utopian space of performance, the Enunciator-S1 returns to the hetero-topos to take stock of the actions undertaken and to present the acquired knowledge to the sanctioning Enunciatee for approval.

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<sup>17</sup> My translation.

In (22), a temporal *engagement*<sup>18</sup> (*current/illustrates*) serves to bring the text back to the ‘here’ and ‘now’ of the situation of enunciation. Unlike the conventional fable where the sanctioning king evaluates the final result only (e.g., the liberation of the princess), in the MCR, besides the final outcome, the scientific correctness of the entire procedure is also appraised. Hence the need to retrace the course of the entire dramatic arc in a nutshell:

- (22) The *current case illustrates* that, in treatment of AH where surgery and traditional immunosuppressive therapy is insufficient or intolerable, monoclonal antibody-directed therapy such as rituximab can be a preferable alternative.

To maintain the scientific significance of the narration of a case it is necessary to place the story within the dynamics of the semiosphere of the medical discourse community to which it appeals. As in the first syntagma, the ‘code of science’ will also prevail in the third to create a discourse entwined with intertextual references. As Bazerman (2004, 86) puts it “a text explicitly invokes another text and relies on the other text as a conscious resource.” The Enunciator will draw other voices into the story creating “proximity to a discipline, showing belonging” (Hyland 2018, online), either aligning or disaligning with them. These voices are associated with other narratives dealing with similar cases “and are likely to represent the individual in a way which is valued by the community and, as a result, they express something of the tension between membership of that community and independence from it” (Hyland 2018, online). Overt reference to other authors’ findings occurs when mention is made of the source of a given statement, either by means of a number in superscript referring to a footnote at the end of the MCR (23), or by indicating the source in brackets (24):

- (23) Previous reports have shown successful treatment with retention of a well-functional implant<sup>o</sup>.<sup>19</sup>
- (24) Elevated D-dimers are associated with increased thrombin generation in COVID-19 (Fan, 2020).

Even more explicitly, the lexico-grammar provides additional resources to introduce and give ‘voice’ to other actors featured in the MCR. Verbal clauses revolving around verbs of ‘saying’ are

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<sup>18</sup> In keeping with Greimas and Courtés (2007), contrary to *disengagement* (*débrayage*), *engagement* (*embrayage*) manages to achieve the effect of identification between the subject of enunciation and the subject of utterance. An engagement presupposes a preceding disengagement (see Note 11).

<sup>19</sup> The symbol ‘<sup>o</sup>’ stands for a number referring to a note containing the indication of the source.

typically clustered in the third syntagma to “contribute to the creation of narrative by making it possible to set up dialogic passages” (Halliday and Matthiessen 2004, 252). What is reported is not “presented as true to the wording; the speaker is reporting the gist of what was said, and the wording may be quite different from the original” (Halliday and Matthiessen 2004, 453-454). The message conveyed by the intervening actors can be summarised and encoded in a nominal group within the verbal clause as in (25) and (26), or realised in a separate projected clause as in (27) and (28):

- (25) Kang et al. demonstrated feasibility in performing laparoscopic-endoscopic cooperative surgery (LECS) for gastric submucosal tumors.
- (26) In another study, Garcelon et al. described a text mining based analysis leveraging TF-IDF to discover associations between clinical phenotypes and rare diseases.
- (27) Shalev et al. hypothesized that the absence of T-cell activation alleviates the severe immunopathological phenomena seen in COVID-19.
- (28) Tsutaoka et al. suggested that after colectomy, the small-bowel bacterial flora may make the small intestine biome similar to that of the colon, thereby making it more susceptible to overgrowth with *C. difficile*.

This way, a series of actors are summoned to act within the narrative, each of whom will be the bearer of a point of view and a position. Just as the multiple voices in a choir or the various instruments in an orchestra enable the conductor to blend the various parts together in a harmonic whole, the polyphonic style of an MCR narrative permits the Enunciator to provide a favourable backdrop against which s/he may substantiate her/his statements. Not only, but they perform a practical role as supports upon which to base the credibility of discoveries to be presented to and judged by the Enunciatee/Sanctioner. As Hyland (2018, online) puts it, “We gain credibility as disciplinary members and approval for our performances by positioning ourselves in relation to others using these discourses.”

On the basis of this credibility, the Enunciator can suggest possible research or clinical implications and dispense recommendations informed by the specific knowledge s/he has acquired. Aware that the Enunciatee’s positive sanction depends on the relevance of the results achieved and the solidity of the method employed, as well as on the discursive effectiveness of the story told, the Enunciator will emphasise the contribution s/he believes s/he has made to the expansion of medical knowledge, by claiming the possible effects her/his findings may have



on future research. However, s/he will do so with a certain caution by resorting to forms of hedging (Hyland 1998) and underlining the tentativeness of the results achieved:

- (29) [The SAUL trial] showed that atezolizumab is tolerable and an effective treatment for urinary tract carcinoma, including patients with autoimmune disease and renal impairment [32]. These findings may provide a viable treatment option for this group of patients who *may* also have multiple co-morbidities, however the final results of the trial are awaited.
- (30) In conclusion, this study demonstrates that in vivo detection of fumarate using 1H-MRS *could* be employed as a functional biomarker of metabolic derangement in patients suspected of having HLRCC. In the future it *could* be used as a treatment response biomarker for targeted therapies.

### 3. Conclusion

This study sought, above all, to show how even a ‘dry’ scientific text can be read as a conveyer of narrative content to those called upon to interpret MCRs and learn the art of creating their own reports. There is no reason why a written MCR, while remaining informative and losing none of its scientific purposes, should not be as gratifying and interesting to read as any other story. Fables, novels, plays and MCRs all adhere to the schemata described by Propp and Greimas upon which traditional storytelling is based. Here the parallels between these two modes of relating a story have been foregrounded. From a strictly didactic point of view, the twofold kernel issue is how a narrative pathway can engage and motivate readers, in this instance healthcare professionals, enabling them to read MCRs for both their ‘know what’ and their ‘know how.’ This approach involves entry into the multidimensional space of a text that mirrors the two types of reading Barthes (1974) identified: the horizontal and the vertical ones. Horizontal reading is a ‘readerly’ experience only concerned with the transparent story line of the text, which ignores what lies beneath and how the text is achieved. On the other hand, vertical reading involves a writerly approach, which delves into the deep mechanisms that generated the text and its meaning, then converted at surface level into lexical grammatical choices. Enactment and emulation are the keywords. If motivated, healthcare providers who consult MCRs can be induced to re-enact not only the professional healthcare issues documented in the texts but also emulate the generative trajectory of meaning from the semio-narrative level to the discursive level of the text. This deep creative and *blissful* response invoked by the writerly interpretation of a text is “what transforms the reader from being a passive consumer into a blissful scribe or scriptor” (Mambrol 2016, online).

**Renzo Mocini** is an Associate Professor in English Language and Linguistics at the Faculty of Medicine and Dentistry, 'Sapienza' University of Rome (Italy), where he teaches Medical English. His major interests include language teaching methodology, ESP, corpus linguistics, Functional Grammar and narrative semiotics. He has published extensively in the field of medical discourse and tourist promotion.

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