ISSA Proceedings 2010 – The Use Of The Script Concept In Argumentation Theory

1. Introduction. The English term script.

The origins of this paper are in the one we prepared for the 6th ISSA conference four years ago (Vega & Olmos 2007). There we talked in general about our proposed approach to enthymemes and enthymematic argumentation and mentioned the concepts of *cognitive environment* and *script* as referring to two different configurations of the kind of undeclared guide, resulting from a common background of knowledge and expectations shared by the agents, that might become the basis of the enthymeme's soundness and persuasiveness. We where acknowledging, thus, the possibility of at least analysing some enthymemes as based on *scripts*, referring, in particular, to those instances in which what is supposedly shared by arguer and audience is not so much a piece of information as a common *history* or the expectations about a usual behaviour that follows a familiar pattern, that is – according to a now rather extended use of the term – , a well known *script*.

Since then, we have felt that the concept itself needed some clarification as it is currently shared by several related fields and used within argumentation theory itself in various senses. So the main aim of this paper is to offer first a clarifying panorama of these different uses or meanings in order to better understand and situate our final choice and proposal, that is again the one related to enthymematic argumentation, along the same lines of our 2006 paper but, we hope, in a more refined and informed way.

In order to do this, we might begin with the semantics of the term *script* as it appears in the *Oxford English Dictionary* (1971, *Supplement* 1987). Here is a summary of this dictionary's entry:

Etymology: from Latin *scriptum* (neuter past participle of *scribo*, to write)

(1)   something written; a piece of writing (*Now rare*).

(2)   Handwriting, the characters used in handwriting.

(3)   A kind of writing, a system of alphabetical or other written characters.

(4)   *Law.* "The original or principal instrument where there are part and counterpart" (*script* and *rescript).*

(5)   In theatrical parlance, short for Manuscript (Written '*script*), the text used.

(5b)   The typescript of a cinema or television film; the text of a broadcast announcement, talk, play or other material.

(5c)   *Tranf.* In *Social Psychology*. The social role or behaviour appropriate to particular situations, esp. of a sexual nature, that an individual absorbs through his culture and association with others.

(6)   An examinee's written answer paper or papers.

(7)   An assistant to the film director.

We have first the proper and original sense of the term (1) – merely something written – of which (2) and (3) are rather immediate derivations. In (4) and (6) we find particular but non problematical applications of the original sense in fields familiarly associated with official writings: the legal and the educational contexts. Curiously enough, the now obsolete and rather attractive legal opposition between *script* and *rescript* could have been exploited in argumentation theory, but as far as we know, it hasn't. Nowadays, though, the most extended and recognized meaning of *script* is the one developed in (5) and (5b) where the term has become specialized in cases in which we do not just have something written but, we could say, something "pre-written when used", pre-written by someone and then uttered/enacted by others in contexts where such thing naturally happens (theatre, film, broadcasting). Sense (7) derives from sense (5) as referred, metonymically, to the person professionally taking care of the *script* in filmmaking.

But, as could be suspected, our theoretical interest is mainly centred on the *transferred* meaning labelled (5c). The *Dictionary* picks up here the use extensively made by social and cognitive psychologist of the term *script* in order to describe/explain such kind of behaviour (not necessarily discursive) in which we recognize a sequence pattern that's been socially or culturally acquired. The term *script* looses, in this metaphoric use, its *textual* character while its *sequential* or *procedural* meaning is emphasized. There is, additionally, another kind of "transfer" here as, in this case, there is no recognized *author* of the sequence and it is life in society itself that provides it through social learning or endo-culturation.

This kind of transferred meaning of the term *script* was first developed by

psychologist J. H. Gagnon and W. Simon in 1968 as an adequate concept to deal with sexual behaviour (thus the *Dictionary*'s remark in (5c)): "All human sexual experience is scripted behaviour. Without the proper elements of a script that defines the situation, names the actors, and plots the behaviour little is likely to happen [...] The scripts we bring to such (interpersonal) encounters are most typically non sexual". These same authors suggested the generalization of a such use of the term in their well know and widely read 1973 book, *Sexual Conduct: the Social Sources of Human Sexuality*: "The term *script* might properly be invoked to describe virtually all human behaviour in the sense that there is very little that can in a full measure be called spontaneous". But it was the work of R. C. Shank and R. P. Abelson, *Scripts, plans, goals and understanding: An inquiry into human knowledge structures* (1977) that modelled the way it was going to be understood and developed in cognitive psychology.

For Shank and Abelson *plan* and *script* represent elements of an individual's acquired knowledge that establish procedural links between necessities or goals and lines of action. Whereas *plan* is used for general knowledge about the adequacy between means and goals, *script* represents detailed knowledge associated with a particular situation, a repeated recognizable sequence that may become a social standard and, in its strongest sense and most extreme cases, may even become a ritual. In Shank and Abelson's work, the term refers thus to a cognitive structure that is hypothesized as being behind one's stereotyped behaviour. We act thus because we have acquired the corresponding knowledge about standard behaviour in standard situations. Again, there is no *author* of the script here, but just actors (enactors) who generally would not be able not give a proper account as to how they have learned it. Shank and Abelson's proposal was extremely successful and has been, ever since its publication, repeatedly quoted and extensively used within related fields. We can mention, for example C. Bicchieri's recent book on the nature of social norms where she claims that social norms are embedded in such cognitive structures as *schemes* and *scripts* (Bicchieri 2006, Ch. 2).

There is, nevertheless, a final twist in this story that, in our opinion, has become the source of some confusion. The close relationship between cognitive psychology and artificial intelligence (AI) studies has led to the widespread use of the term *script* also in this second field where it has acquired the much more concrete meaning of a "structure that represents procedural knowledge". More

concrete because, here, such structures are no more hypothesized operations of the mind nor unidentified "parts" of the brain but materially and symbolically well determined entities. In particular, they are usually written (in some format) lists of instructions creating a *program*. In computation, thus, a *script* is defined as a "mini-application or part of a program – usually a text file – containing a set of directions which perform the automatization of certain tasks" (*Wikipedia*). So in AI studies and computation it seems that we have reached a conjunction of two previously diverging meanings: the psychological sense of "procedural knowledge" together with the original sense of "something written" (a program). And here we have again the figure of the author, a person or a group of people that have done the writing.

With this wide panorama in mind, we can now explore our own field, argumentation theory, in order to take a look at the various ways in which the term *script* has appeared to different theorist as a suitable concept to be fruitfully applied in the understanding of argument. We have identified at least three different uses which we will describe in the following sections and which, we claim, should not be mistaken.

2. The concept of script *in Computer Supported Collaborative Learning (CSCL)*
The first use of the term *script* we have to review is related to computation studies and the application of ICTs to education. Within the field of what is currently called Computer Supported Collaborative Learning (CSCL) the term *script* appears once and again (Kollar *et al.* 2003) with the concrete meaning already mentioned in the previous section, that of a computer program which is, in this case, usually made explicit and visible to the users – the pupils working in collaboration – and which contains directions and prompts for a closely guided collaborative educational process. *Script* is used here as referring both to the computer program and to the educational sequence performed by the learners prompted by it.

The relationship between this use of *script* and argumentation studies comes from the fact that the desired emphasis on collaboration is also inducing a parallel accent on argumentation as it is in the process of questioning, criticising and justifying what is learned among the learners that such collaboration takes place. A. Weinberger, an important author in this field, has written about the different effects of what he calls *social* and *epistemic cooperation scripts* on collaborative knowledge construction (Weinberger 2003). For Weinberger, speaking in general

terms, "the underlying principles of script approaches are to *specify*, *sequence*, and *assign* activities to collaborative learners", but he also establishes a useful distinction between more traditional *epistemic* scripts, structuring the basic tasks assigned to the learners as such (discussion and commentary of the educational contents), and *social* scripts, with instructions as to how to face these tasks and how to interact in collaboration (good practices). Weinberger and his collaborators (Weinberger *et al.* 2005) offer the following example of this distinction in the case of a group of students learning "attribution theory" in collaboration by examining a case study:

Table 1. Epistemic script prompts of study 1

Case information, which can be explained with the attribution theory

Relevant terms of the attribution theory for this case

Does a success or a failure precede this attribution?

Is the attribution located internally or externally?

Is the cause for the attribution stable or variable?

Does the concerned person attribute himself/herself, or does another person attribute?

Prognosis and consequences from the perspective of the attribution theory

Case information which cannot be explained with the attribution theory

Table 2. Social script prompts of study 1

Prompts for the constructive critic

These aspects are not yet clear to me

We have not reached consensus concerning these aspects

My proposal for an adjustment of the analysis is

Prompts for the case analyst

Regarding the desire for clarity

Regarding our difference of opinion

Regarding the modification proposals

As we can see, the *epistemic* script has to do with knowledge clarification and justification, the traditional tasks of scientific learning, whereas the *social* script emphasises communication, familiarity with the matter learned and effective persuasion and thorough agreement between collaborative learners. The important thing for us here is that the conclusion of Weinberger and his co-authors in this study is that "social scripts (that have to do with conversation, interaction and argumentation) work better than epistemic ones in collaborative learning". Moreover, *epistemic* scripts may constraint too much the way learners are supposed to acquire their knowledge. They represent an excessively "guided" process that might restraint individual capabilities.

This conclusion in favour of the development of *social* scripts has led these authors to get deeper into issues as the importance, for collaborative learning in general, of acquiring, at some point, adequate argumentation skills. So in some other paper (Weinberger *et al* 2005b) they talk about the particular *scripts* used not in learning any possible matter but in learning argumentation skills proper. And here they resort to what's available in computerized argumentation programs, where arguing is usually reduced to the acquisition and manoeuvring of argumentation schemes: either classical argumentation models (S. Toulmin's, for example) and schemes (D. Walton's) in the case of "single arguments" or, alternatively, sequence models for an argumentative interchange and discussion in dialectic settings. In both cases the learners are provided with a visual interface in which they have to fill up the blank spaces making a contribution that corresponds to a certain label: *e.g.* warrant, backing, etc., in the first option; argument, counterargument, integration, in the second one.

In all these cases, though, as already mentioned, the *script* is provided by the educators and their availability has nothing to do with social immersion. The "procedural knowledge" represented in such cases is the knowledge of the teacher as to the best way for the students to learn something. The *script* is a single, concrete, and fixed entity that might be refined by subsequent insight by committed pedagogues, but that does not present the interesting flexible and

plastic aspects of their socio-psychological counterparts. Although Weinberger's conclusions about the importance of *communicative* and *argumentative* scripts for collaborative learning might be of interest to argumentation scholars, this particular use of the *script* concept cannot be considered a real contribution to argumentation theory.

3. Argumentative interaction as script *enactment*
The second use we are to review of the term *script* in argumentation and related fields is almost the reverse of the first one. Whereas in the case of CSCL studies we were dealing with a particularly constrained and schematic *script* approach – in relation with the proposals of cognitive and social psychology –, in the following case, the use of the *script* concept tries to capture the widest possible sense of the term in what becomes probably and excessively "loose" approach.

In a 1992 paper entitled "Characteristics of Arguing from a Social Actor's perspective", P. J. Benoit advanced the proposal that arguing itself should be redefined as the enactment of a socially shared *script* common to arguer and audience. This author tried to oppose, thus, other alternative characterizations of arguing as "taking part in a language game" or "performing a speech act" and maintained that her approach helped focusing on the *interactive* aspects of argumentation. Arguing would be, according to this proposal, "a socially recognizable activity responding to the predictions and expectations of the social agents involved and related to a shared system for organizing experience and refer to it in discourse". This, for her, could be best characterized as the enactment of a *script*.

Of course arguing, in its many different variants, is something we can learn and acquire through social experience and, as such – as *e.g.* "standard behaviour in a restaurant", which is Shank and Abelson's classical example – could be conceptualised as a case of following a learned *script*. But if we go back to Abelson's mature work (Abelson 1981) we can see his attempt to differentiate script theory from other approaches to behaviour as habit-theory and role-theory. "Role-theory", he says, "tends to emphasize the web of social and institutional expectations constraining social performances, whereas a script-based theory is anchored in individual cognitive structures that my or may not mesh with the performance expectations of others" (Abelson 1981, p. 724).

What Benoit is trying to do with her "global ascription" of the *script* term to the

very complex, variegated, and constitutively multi-agent case of the activity of arguing could be better accomplished, in our opinion, with the use of a broader, richer term, as Abelson's "role-theory" or still better, in our opinion, "practice theory" (Rouse 2007). Rouse, for example, has defended the relevance of a normative – as opposed to a rule-governed or regularity-exhibiting – conception of practices in terms of "accountability to what is at issue and at stake in a practice", his main argument being that such a conception would allow us to understand practices and their normativity "without having to posit stable meanings, rules, norms, or presuppositions underlying the manifest diversity of social life". The use of the term *practice* and its plural *practices* as referring to the different variants of arguing, mediated by institutional settings, would allow us a better characterization of the interactive aspects of the argumentation processes. Even Benoit's wording when defining arguing as "a socially recognizable activity responding to the predictions and expectations of the social agents involved" responds to what could be better called a *social practice* than a *script*.

Moreover, in the already mentioned paper (Abelson 1981), Abelson differentiates between the psychological use of the *script* concept as ascribed either to *cognitive structures* or to *performative structures*. Although he admits and describes both uses in psychology, it is our opinion that the term works better in the cognitive case, as representing what has been acquired by a person through socialized but individual experiences and which is shared not in an absolute but in a partially overlapping way with other members of her same social group. For us, it is not so important that the *script* would be *enacted* at some point, something that would always be mediated by the particular situation and complicated by the many factors involved, as that it would be *retrieved* in some way from our stock of cognitive tools and probably reconstructed each time from past experiences.

Our suggestion is, therefore, to save the term *script* for an *individual*, though, of course, more or less shared, *cognitive structure*, sequential or narrative in contents (as opposed to other cognitive elements); a structure memorized in our minds and closely related to our individual, albeit socialized, learning experiences and retrieved (or reconstructed each time) for different purposes. Let us avoid, we suggest, both the loose understanding of the *script* term as describing complex, multi-agent, social behaviour and the restricted schematic idea of a fully pre-determined guide provided by others. Of course we are not saying that these

uses are wrong or do not respond to the semantics of the term *script*. On the contrary, what we have called the schematic meaning, widespread in computer science, is evidently closer to script's proper sense and presents a nearer analogy to the parlance of the performative arts. But the proposal of a rather metaphoric use of the term, as made by the social and cognitive psychologists in the 70's, is so attractive that we feel it could give place to very interesting results in different fields and, as we will see, also in argumentation studies.

4. The script *as a cognitive structure involved in enthymematic argumentation*
In our opinion, something very much like what's suggested in the previous section could be accomplished following the path of D. Walton's proposal, as made in a 2001 paper entitled "Enthymemes, common knowledge and plausible experience" – and re-exposed again, in 2008, "The three bases for the enthymeme: a dialogical theory". Here, Walton talks about *common knowledge* as one of six possible basis/criteria on which enthymemes may be founded and characterizes this *common knowledge* as "plausible presumptions about the ways things can be generally expected to go in a kind of situation that would (presumably) be familiar to anyone reading/listening to the argument" (Walton 2001, p. 101). He then adds that these plausible presumptions and reasonable expectations are based on "a background body of familiar and expected ways of doing things shared by speakers and hearers – *scripts* to use the term coined by Shank and Abelson" (Walton 2001, p. 109-110). This is finally, the use of the *script* concept as inherited from psychological studies that we would like to emphasize as more interesting and fruitful within argumentation theory; but, nevertheless we'll mention three points on Walton's approach that we feel could be improved and lead to a still better exploit of this concept.

First, Walton keeps repeating that this *common knowledge* is no proper knowledge really, but *plausibility*. In his own 2008 paper, he is somewhat more careful and specifies "it is no knowledge *in the philosophical sense*". Walton is referring here to the well known, mainstream epistemological definition of knowledge as a successful term, *i.e.* as "true, justified belief". He is very conscious, though, about the inadequacy of this concept of knowledge for argumentation theory, a field in which we deal with defeasible, arguable and in any case in-process-of-justifying knowledge. He himself, together with Godden (Walton & Godden 2007), tried to build an improved account of such concept in a paper explicitly entitled "Redefining knowledge in a way suitable for

argumentation theory". Our comment here is that we could probably avoid this difficulty by leaving aside an either fully successful or even a more defeasible but equally static concept of knowledge as-a-product, and by concentrating on a more operative approach to knowing as-an-activity. *Scripts* or other kinds of revisable ways of retrieving our stock of available information would be *cognitive structures* operative in cognitive processes regardless of their epistemological status.

Our second observation is that Walton is not really careful enough in assigning a precise meaning to his compound concept of "common knowledge understood as *script*" as something well differentiated from other criteria/basis for enthymemes. Thus, the non-exhaustive list of informal criteria for enthymemes, as given in his 2001 paper (Walton 2001, p. 96) goes as follows: 1) common knowledge; 2) position of the speaker; 3) custom, habit, normal ways; 4) conceptual links; 5) assumptions of practical reasoning and 6) innuendo and conversational implicature.

It is number 1) that is associated with *scripts* throughout the paper, but we must say that number 3) represents likewise something very close to what is usually retrieved in a script format, according to social psychologists. Moreover, the innuendo mentioned in 6) seems to be more a way of presenting partial information than a differentiated kind of basis for enthymematic argumentation. The effective reconstruction by the audience of an argument presented in an innuendo format could well be analysed as based on a standard narrative or *script* which the arguer trusts her audience to share, at least in its relevant aspects.

There is also an attempt in Walton's work to associate *scripts* with *plausible generalizations* as if a script was finally something like an aggregate of such plausible generalizations which are represented as statements predicting a *reasonable expectation* for a certain clause, other clauses given. But here we perceive a kind of atomism that might be negative for the fruitful exploitation of the *script* concept in our context if, finally, all we end up with is a bunch of plausible generalizations instead of something more complex as a partially common narrative whose main advantage is to evoke a more intricate game of expected relationships that might work in slightly different ways in each member of the audience (according to their different personal experiences) and yet be equally effective with many of them. So our proposal here is that we keep and exploit the overall sequential – though not necessarily linear – character of *scripts*

so that such concept would not be alluded to in describing any punctual likelihood but just used when the likelihood involved has to do with a more complex, particularly sequential and narrative setting. In this sense, the typical enthymematic argumentation based on a script would be, for us, one in which the likelihood or unlikelihood of a claim or a group of claims is supported by framing it into a narrative sequence (typically incomplete) so that the audience may retrieve from their own cognitive stock a suitable script to match it.

A final remark regarding this problem of clarification of the concept of *script* as used by Walton comes from the observation that he mentions AI studies and their use of the term *script* at several points (Walton, 2001, p. 93; p. 101) as something unproblematic and equally relevant to his approach as Shank and Abelson's conception, something that, as we have already seen, might cause some confusion.

Our third and more substantial point has more to do with the overall perspective adopted by Walton in his approach to argument studies in general and enthymemes in particular. His account favours what we may call the individual viewpoint of the arguer, ideally recovered by the analyst. He would like to be able to analyse and to complete the enthymeme that is in the arguer's mind and is very concerned with the problem of identifying her *used assumptions* as something different from the *needed assumptions* dictated by a too charitable reconstruction of the argument. For him, it seems, the only relevant *script* involved is the *script* effectively evoked by the speaker that must be grasped as such by the audience. But, from a more rhetorical, more *audience related* account of the enthymeme, as the one advanced by C. Tindale, for example (Tindale 1999; 2004), for whom the enthymeme is the kind of argument that necessitates the collaboration and co-authorship of the audience for its very existence, the effectively *used assumptions* would be those *retrieved* by the audience which, in our case, could be more or less overlapping *scripts* related to the different learning experiences of the individuals present in the audience.

The final idea we would like to offer is that it is precisely such flexible character of the *script* structure, as used by social and cognitive psychologists, that makes it so attractive and theoretically interesting for us. We could be dealing with a concept that is not so restricted as the term used in computer science, because it does not refer to something provided by others and "ready made" but has been learned through different living experiences and is, at the same time, more or less

shared by those belonging to the same society. On the other hand, we could count on a rather precise type of individually owned *cognitive structure* that might determine individual behaviour but that should not be confused with a multi-agent practice or performance as is the socially situated activity of arguing – as, to our view, happens in Benoit's suggestion.

Such a balanced sense of the *script* term might finally help better an *audience related* conception of the enthymeme than it really helps Walton's own account, where the script gets confused with other types of *hidden assumptions*. A *script*-based enthymeme would be successful as long as it is capable of evoking some kind of narrative setting, in principle shared by the individuals in the audience – at least a high percentage of them –

but, at the same time, learned through personal experience in a non fully explicit way, and so capable of adopting slightly different patterns, slightly different sequences, most of them, in the arguer's hope, compatible with the proposed argumentation. Within this approach, enthymematic argumentation based on socially acquired scripts would be taking advantage of the enormous possibilities of being able to be successful in front of a very diverse audience whose members, in this case, are not required to share a very precise and particular "missing premise", but just to be able to retrieve, from all their personal stock of learned experience, an approximately matching narrative.

This persuasive possibility is usually widely present (and duly exploited) in the evaluation of evidence in legal cases, as the experimental works of Pennington and Hastie on decision making (1986, 1988) have pointed out. These authors present a model for evidence evaluation in which cognitive representations of the evidence in the form of stories are produced, showing that subjects spontaneously tend to evaluate evidence in a legal judgment task by constructing an explanatory representation in the form of a narrative story. A more theoretically committed approach is the one represented by the work of Wagenaar, van Koppen and Crombag (1993 [1992]) on the role that "anchored narratives" – narratives that are sufficiently anchored in reality and experience – play within the psychology of criminal evidence. Bex *et al.* (forthcoming) finally try to clarify the panorama of evidence evaluation distinguishing between two approaches to reasoning with evidence, one argument-based and one story-based. As they think that both kinds of reasoning occur and are likewise relevant in most cases, they support a hybrid model that is the theoretical basis of their software formalization of evidence

evaluation in complex cases.

These modern approaches might shed light on discursive strategies that have been used for centuries in courts and assemblies. Thus, the legal speeches of Lysias (4th c. BC) show cases in which the partial reconstruction of a plausible narrative – a story considered sufficiently *eikōs* (probable) or at least *eikoteros* (more probable) that the other part's account – becomes the basis of the defence or accusation. Taking in account the large and heterogeneous composition of the juries in 4th c. BC Athens – legal cases were conducted before 200 or more *dikastes* (Humphreys 2007) – the narratives used and reconstructed, that should allegedly match with the audience own experiences (their fairly overlapping *scripts*), had to recur to widely assumed social patterns. For example, Lysias' Defence Speech in the Eratosthenes Murder Case (Lysias I) takes advantage of such kind of socially patterned (stereotyped) conduct to interpret all the steps taken by the defendant during the day of the crime. A more interesting and complex case could be the one presented in Lysias XXV: a speech of defence against a charge for subverting the Democracy. In this case, belonging to the series of trials that took part after the defeat of the Tyrany of the Thirty (404 BC), Lysias wrote a speech for his client – defendants talked for themselves but were allowed to use speeches made by professional writers – in which he appealed to the audience vivid, recent and widely shared experiences in similar trials in such a way as to portrait his own case as deviant regarding *the usual script*: "Now, I consider that I have a strong justification in the fact that, if my accusers were able to convict me of personal wrongdoing, they would not charge me with the misdeeds of the Thirty" (Lysias, XXV, 5).

In this final example, the narrative cognitive structure (script) supposedly (hopefully for the defendant) present in the individual memory of the different members of the audience – socially acquired through their massive albeit particularized experiences in other trials where strong cases of "personal wrongdoings" have been presented – is used as a counterargument to weaken and rebut the accusation's account as unlikely.

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