A well known fact about Spanish is that, some intricacies aside, human and specific Direct Objects (DO) must be headed by a preposition (A “to”), as in (1) (Torrego 1998, i.a.)---it is the so called Differential Object Marking (DOM, Bossong 1985, 1991). Although A is mandatory with this kind of DOs, in ditransitive constructions, A before the DO decreases the grammaticality of the sentence if the Indirect Object (IO), also marked with A, is present (cf. (2a)-(2b)-(2c)), as noted early by traditional grammarians (Bello 1847: §900; see also Demonte 1994, Pensado 1995, Torrego 1998, Richards 2006, Rodríguez-Mondoñedo 2007, i.a.)---keep in mind, however, that some researchers deny that this dropping is possible (Brugé and Brugger 1996), which probably means that there are some dialectal differences. The dropping of A in the DO is mandatory, independently of DO-IO order (cf (2b-2c)-(3)), which is not fixed in Spanish (Demonte 1994, i.a.)

(2b) and (3b) are a prima facie problem for theories that proposes that A-marked DOs do not remain in situ because of constraints on the syntax-semantic interface (Torrego 1998, Rodriguez-Mondoñedo 2007) and must vacate the VP to check case outside (the verb in turn moves to Inflex, as already proposed by Emonds 1978): if the presence of the preposition reveals that the Marked Object has moved, then we do not know how Case is checked in (2b), (3b), where there is an unmarked human specific object. It is also a problem for theories that use a system of markedness reversal (Aissen 2003): the non-prototypical object becomes unmarked. Torrego 1998 proposes different case assignment mechanisms for (2b)-(3b), but this seems an ad hoc solution (although some correlations has been established with respect to the availability of clitic doubling in these constructions; see Demonte 1994, Torrego 1998). Richards 2006 proposes that linearization (i.e. the PF-interface) is responsible for the dropping: since both DO and IO use A, a principle of Distinctness forces the DOM marker to drop, to be sufficiently different from the IO for the linearization process. Furthermore, the dropping of the DOM marking in ditransitives is not exclusive of Spanish DOM, but other DOM languages manifest this behavior too (see Richards 2006, Kittilä 2006, i.a.), which has lead to some scholars to propose that there is a general strategy of disambiguation (De Swart 2007): the A is dropped to avoid ambiguity between DO/IO—notice, however, that this makes the unmarked human specific DO now ambiguous with respect to the subject (which, according to the same authors, triggered the DOM marking in the first place).

I present a new set of data that seems to challenge these explanations further: A-dropping is sensible to the weight of the objects. If the objects are large enough, the preposition cannot be dropped, as witness by (4), where both As are mandatory. Interestingly, (4) is ambiguous, which means that it is enough that one of the objects (DO or IO) is heavy to block the A-dropping in the DO. In fact, already Bello (1847: §900) noticed that A cannot be dropped in similar cases (5). We cannot easily say that there are different domains for case checking, as Torrego 1998 and Richards 2006 suggest for other cases where the dropping is also not favored (with clitic-doubled DO (6), despite being a short DO), since the only different between (3a) and (4) is the weight of the object. For the same reasons, ambiguity-driven explanations will not work either.

I contend that these cases are in fact evidence that the Syntax-PF interface is involved in the dropping. If DOM objects are morphologically identical to IOs, we obtain the conditions to apply Richards’s 2006 Distinctness principle, in order to drop A. It is enough to assume that heavy objects undergo Heavy-NP Shift (HNPS) to account for the lack of A-dropping: HNPS can be seen as a PF-driven mechanism that changes the linearization domain. In other words, it is not the case that the objects in (3)-(4) have different case-checking mechanisms, just different linearization domains for PF reasons. In fact, the same solution is available for clitic-doubled DOs (6): if DO clitic-doubling involves movement out of the vP phase (as suggested by many authors, see Zagona 2002 and the references there in), then it moves to a different linearization domain too. Furthermore, this solution is also compatible with Torrego’s 1998 general solution for DOM: the DOM object leaves the VP to check case outside (perhaps against a Dative Phrase as in Rodríguez-Mondoñedo 2007, inside the vP extended projection), and from then is HNP-shifted to a different linearization domain, preserving the A.
(1) Juan besó a Susana
John kissed to Mary
John kissed Mary

(2) a. Juan le presentó a la profesora
John HIM/HER introduced to the teacher-FEM
John introduced the teacher (to him/her)
b. Juan le presentó la profesora a Pedro
John HIM/HER introduced the teacher-FEM to Peter
John introduced the teacher to Peter
c. ?? Juan le presentó a la profesora a Pedro
John HIM/HER introduced to the teacher to Peter
John introduced the teacher to Peter

(3) a. ?? Juan le presentó a Pedro a la profesora
John HIM/HER introduced to Peter to the teacher-FEM
John introduced the teacher to Peter
b. Juan le presentó a Pedro la profesora
John HIM/HER introduced to Peter the teacher-FEM
John introduced Pedro to the new teacher María Antonieta de las Nieves

(4) Juan le presentó a Pedro a la nueva profesora María Antonieta de las Nieves
John HIM/HER introduced to Pedro to the new teacher María Antonieta de las Nieves
John introduced María the new teacher María Antonieta de las Nieves
OR: John introduced Pedro to the new teacher María Antonieta de las Nieves

(5) El traidor Judas vendió a Jesús a los sacerdotes y fariseos
The traitor Judas sold A Jesus to the priests and Pharisees
The traitor Judas sold Jesus to the priests and Pharisees
[Bello 1847: §900]

(6) La presentó *(a) ella a Juan
CL-DO introduced A she to John
She introduced her to John

References
neurianischen Sprachen. Tübingen: Narr.
Kittilä, S. 2006. The woman showed the baby to her sister: On resolving humanness-driven ambiguity in
Amsterdam: Benjamins. 291-308
Richards, N. 2006. A Distinctness Condition on Linearization Ms. MIT.