NPI examples:

(1) a. * I gave you anything/anything at all/a red cent.
   b. ✓ I didn’t give you anything/anything at all/a red cent.
   c. ✓ Nobody gave you anything/anything at all/a red cent.
   d. ✓ Everybody who gave you anything/anything at all/a red cent is a fool.
   e. * Everybody who is a fool gave you anything/anything at all/a red cent.
   f. * Many/✓ Few people gave you anything/anything at all/a red cent.
   g. ✓ Only two people gave you anything/anything at all/a red cent.
   h. ✓ Exactly four people have ever given you anything/anything at all/a red cent.
   i. ✓ If anyone gives you anything/anything at all/a red cent, they’re a fool.
   j. ✓ Most people who gave you anything/anything at all/a red cent are fools.
   k. ✓ Do you have anything/anything at all/a red cent?
   l. ✓ Who of you has anything/anything at all/a red cent?
   m. ✓ I wish you had a red cent.

(2) a. *? He knows what the hell he’s doing.
   b. ✓ He doesn’t know what the hell he’s doing.
   c. ✓ Nobody knows what the hell they’re doing.
   d. ✓ Everybody who knows what the hell they’re doing buys a Ford.
   e. *? Everybody who buys a Ford knows what the hell they’re doing.
   f. * Many/✓ Few people know what the hell they’re doing.
   g. ✓ Only two people in this country people know what the hell they’re doing.
   h. ✓ Exactly four people in this country have ever known know what the hell they’re doing.
   i. ✓ If you know what the hell you’re doing, you’ll buy a Ford.
   j. ✓ Most people who know what they hell they’re doing buy Fords.
   k. ✓ Do you know what they hell you’re doing?
   l. ✓ Who of you knows what they hell you’re doing?
   m. ✓ I wish you knew what the hell you’re doing.

1 Point: Jacobson 2014: §16

Jacobson gives us the standard line on NPIs from formal semantics. The story goes, roughly:
• People used to think that NPI licensing was a purely syntactic issue: an NPI must be c-commanded by a not (or some other of a small list of licensers). But then they noticed that

  – NPIs are acceptable in lots of environments which lack an overt negation;
  – these environments share a number of semantic characteristics.

• Ladusaw, drawing on Fauconnier’s observations about scale reversal, realized that it was really being in a downward monotonic semantic environment that licenses NPI. This accounts for the (a-f) examples in (1) and (2).

• In some cases it may be necessary to invoke stronger semantic properties, like anti-additivity, to account for pickier NPIs like either.

  (3) a. John didn’t come at all/either.
    b. Did John come at all/??either? (acc. to Giannikidou (2012: 1680))
    c. Few people came at all/?either.

(Clearer examples apparently exist in Dutch, Greek, and other languages.)

• There are admittedly some systematic puzzles — (g-m) examples above:

  – only: maybe we can give an alternative semantics where this is downward monotone, together with a refined characterization of the licensing environments? (von Fintel 1999)
  – antecedents of conditionals: this may be possible here too (von Fintel 1999, 2001)
  – restriction of most: ??? (though see Gajewski 2010 for an attempt to make this a DE environment)
  – exactly n: ??? (a key argument for a pragmatic component: see below)
  – Polar and wh-questions: ??? (see Guerzoni & Sharvit 2007 for an attempt to reduce to DE-ness)
  – wish — this environment is either upward- or non-monotonic; making it DE seems hopeless.

— but these wrinkles will no doubt eventually be ironed out, and overall the generalization is secure: “the history of research on this domain is a history of successes” (Jacobson 2014: §16).

• The question of why there should be polarity items at all is interesting, but it’s not really incumbent on us to explain this. An approach like that of Kadmon & Landman (1993) gives us a sense: NPIs have no semantic effect except through domain widening, and this operation isn’t allowed unless it would strengthen the truth-conditions. Thus Fred has any money is bad but Fred doesn’t have any money is OK.
– But why would weakening a statement lead to infelicity/ungrammaticality? This isn’t the case in general: e.g., *Bill is fairly rich* is not odd simply because it’s weaker than *Bill is rich*. The fact that weakening is allowed with *fairly* but not with *any* must be lexically encoded, somehow.

FYI: the syntactic approach may be enjoying a revival (Collins & Postal 2014).

2 Counterpoint: Israel 2004: §4

For Israel, the question of why there are polarity items at all is not a curiosity, but a (maybe the) fundamental issue.

Since it wasn’t discussed much in J. or above, here are some PPI examples:

(4) a. Bill is (?? not) considerably richer than Mary.
   b. I would (?? not) just as soon leave.
   c. Fred is (?? not) utterly happy.

Israel (2004: 711):

A comprehensive theory of polarity sensitivity must face (at least) three general problems (Israel 1996; cf. Ladusaw 1996).

- Licensing: How are polarity items licensed? What makes polarity contexts a natural class?
- Sensitivity: What makes polarity items sensitive to polarity? Are there features which all polarity items share and which might explain their sensitivities?
- Diversity: Why do different polarity items, both within and across languages, often exhibit different sensitivities? Is polarity sensitivity a unified phenomenon?

Of these, the licensing problem is typically viewed as the most fundamental: since polarity items are defined in terms of their distributions, it makes sense to begin by clarifying just what these distributions are. Moreover, licensing has a certain allure for generative theories, as it lends itself to structural explanations; partly for this reason, polarity items have figured prominently in debates on the architecture of grammar, and especially on the existence and nature of a linguistic level of logical form (cf. Baker 1970; Ladusaw 1983; Linebarger 1987, 1991). However, as we shall see, polarity items tend to resist purely structural explanations, and pragmatics often plays a role in explaining the details of their sensitivities. Ultimately, I suggest, their grammaticality is a matter not of grammar alone, but depends crucially on their rhetorical fit with the contexts in which they occur.

Downward monotonicity is neither sufficient not necessary for NPI licensing:
(5)  a. Anyone who gives a damn about the environment enjoys recycling.
    b. ?? Anyone who gives a damn about the environment shops at Ikea.

On Linebarger’s account, [(5a)] works because it conveys the implicature that people who do not recycle do not give a damn about the environment, and [(5b)] fails because there is no natural connection between environmental friendliness and patronage of Ikea which might support similar negative implicature. The fact that [(5b)] begins to sound acceptable to the extent that one can make such a connection strongly suggests that implicature plays a crucial role here.

The examples in [(6)] illustrate the opposite problem, showing NPIs which are licensed even in the absence of a DE operator.

(6)  a. He kept dreaming of her long after he had the slightest desire to see her.
    b. There are precisely four people in the whole world who would so much as consider lifting a finger to help that maniac.

Neither of these sentences contain an appropriate DE licensor, but they both generate negative implicatures: [(6a)] suggests that the dreams continued when he did NOT have the slightest desire, [(6b)] suggests that any sane person would NOT lift a finger to help. (Israel 2004: 713-4)

Note: the argument involving (5) is a bit unconvincing, since the inference in question is not just an implicature, but an entailment. A supporter of DE-ness could plausibly argue that (5b) is odd simply because it entails something that’s not believable: there is “no natural connection between environmental friendliness and patronage of Ikea”, period. The “not necessary” part of the argument illustrated in (6) seems more secure.

Even putting these issues aside, the domain widening approach to NPIs associated with Kadmon & Landman, and promoted by Jacobson, is at most a part of the story.

But while many NPIs and PPIs do effectively strengthen a speech act, others work in just the opposite way, serving to hedge or mitigate the force of an expressed proposition. Such attenuating polarity items are in fact quite common: along with English NPIs like all that, so very and much, one finds the French grand chose ‘much stuff’ and grand monde ‘many people,’ the Dutch bijster ‘very’, the Japanese sonnani ‘that much’ and anmari ‘too very’ (Vasishtth 1998), and the Persian coendan ‘much’ and un-qoedrha ‘that much’ (Raghibdoust 1994).

There is in fact a reliable correlation between the pragmatic force of a polarity item (whether emphatic or attenuating) and its scalar semantics (Israel 1996, 1998, in prep.), and the interaction between them divides polarity items into four basic classes. Roughly, and with some principled exceptions (cf. Israel 2001), emphatic polarity items include NPIs denoting minimal scalar values
and PPIs denoting maximal values, while attenuating polarity items include NPIs with high scalar values and PPIs with low scalar values. The lists below give a hint of the variety of such forms in each of these classes in English.

- **Emphatic NPIs**: any, ever, at all, the least bit, in the slightest, give a damn, have a chance in hell, can fathom, can possibly, would dream of
- **Emphatic PPIs**: tons of N, scads of N, constantly, utterly, insanely, in a flash, within an inch of N, be bound to V, gotta V
- **Attenuating NPIs**: be all that, any too, overmuch, long, much, great shakes, be born yesterday, trouble to V, mince words, need
- **Attenuating PPIs**: some, somewhat, rather, sorta, a fair bit, a tad, a whiff, a hint, a tittle, a smidgen, more or less, would just as soon

This regular correlation suggests a principled relationship between polarity sensitivity and scalar semantics: I call this the scalar model of polarity sensitivity. The basic idea is that polarity items are scalar operators—forms which are construed within the structure of a scalar model (cf. Kay 1990; this volume). The scalar denotation of a polarity item determines its position within the model, its pragmatic force constrains its inferential relation with other propositions in the model, and the two together create the effect of sensitivity. For example, an item like *lift a finger* denotes a minimal effort and contrasts with the expression of any greater effort; as an emphatic item it contributes its meaning to a strong proposition, and so must unilaterally entail contrasting propositions in the model. The result is that *lift a finger* can only be used in scale reversing contexts, where inferences run from lesser to greater efforts: *she didn’t lift a finger* is fine because it licenses the inference that ‘she didn’t try very hard; *she lifted a finger* yields no such inference: it fails because it expresses a weak proposition incompatible with its inherently emphatic nature.

A similar logic applies to attenuating polarity items. These forms require a construal in which they are entailed by, rather than themselves entailing, some default norm within a scalar model. Again, unlicensed polarity items are semantically incoherent: a sentence like *her theory is all that complicated* simultaneously offers itself as a weak claim (due to the conventionally attenuating NPI *all that*) and yet makes a strong claim (i.e. ‘the theory is very complicated’). The sentence is bad because it allows no construal consistent with both its scalar denotation and its attenuating pragmatics.

A key feature of the scalar model is the idea that polarity items themselves conventionally express certain pragmatic functions, and that they are licensed precisely (and only) where they can successfully discharge these functions. This is rather different from, for example, Krifka’s theory, in which the lexical meanings of polarity items are cashed out basically in terms of a semantic denotation plus a set of alternatives, and the pragmatic rules which limit their
distributions are general properties of sentences rather than of the polarity items themselves. On the other hand, it is very much in the spirit of a theory like Kadmon & Landman’s (1993), which attributes the distributional constraints on English any to the interaction of a semantic feature, widening (analogous to the expression of a low scalar value) and a pragmatic requirement, strengthening (equivalent to emphasis in a scalar model).

What distinguishes the scalar model is its wide application to polarity items of all sorts. The theory seeks to explain why polarity items should exist at all, and it finds the reason precisely in their usefulness. The pragmatic functions which polarity items encode, emphasis and attenuation, reflect two antithetical ways in which scalar semantics may be deployed for rhetorical effect: emphatic expressions serve to mark commitment or emotional involvement in a communicative exchange, while attenuation both protects a speaker’s credibility and shows deference to a hearer by minimizing any demands on his credulity. These complementary functions may thus be seen as tools for negotiating politeness (cf. Brown & Levinson 1978). (Israel 2004: 716-7)

3 More on the insufficiency of syntax and semantics

As God in the deist universe and the author in the Flaubertian novel, so is negation in one particularly interesting sentence-type: everywhere present yet nowhere visible. (Horn 2001: 176-7)

Naturalistic examples from Horn 2001:

(7) a. For example, in (48a), the fact that the speaker received any money at all is the most important information, and the amount received is secondary.

b. So the second Empire Masquerade was planned and debated a long time before it actually happened. That it happened at all was due to the death of Maurice’s great-aunt.

c. His eyes narrowed in a little in a way they had when he looked at things hard or was at all in doubt.

Some that I’ve found:

(8) a. Her strength and activity seemed to have collapsed at once into that heavy quietness which comes when one has endured to the utmost limit of endurance when one feels as if to speak a word or to lift a finger would be as much as life was worth.

b. Getting anybody to lift a finger would be really tough.

c. I am not at all happy, the last thing I wanted was give DD a single red cent of my money after the amount of plows I bought

d. I never realized how difficult life is for these amazing creatures. The fact that they continue to exist at all is something of a miracle.
e. The fact that this video is able to exist at all is a reminder of undeniably serious issues.
f. Keep in mind that no “ideal” interventions actually exist, and that saying anything at all is far better than saying nothing— or being a bystander.
g. To stay any longer would be very costly, because the best market prices invariably went to the first ship to arrive at a particular destination.
h. I’ve always seen Defender as a lazy git because during the clean up of MC at the end of the tutorial, the other Champions and the players are all helping clean up the city and Defender’s standing there WITH A CLIP BOARD... Sure, I know he’s lifted a finger, but still, he has power armor, his strength is augmented, he could help out you know...

Clues (Horn 2001: 180, Linebarger 1987):

(9) a. The humor is based on his derangement and his obvious illusions that Marge or their acquaintance would ever find him attractive. (naturalistic)
   b. The humor is based on his derangement and his obvious {#recognition/?hope/#belief/✓ mistaken belief} that Marge or their acquaintance would ever find him attractive.

(10) a. Exactly four people have ever given you anything/anything at all/a red cent.
    b. ?? Exactly 234,964 people have ever given you anything/anything at all/a red cent.

References