Chomsky 1973 introduce successive cyclic WH-movement and Subjacency. <It's interesting that A-movement had long been assumed suc-cyc, but not A'-movement, which used to be called 'unbounded'.>
Contrary to what you might have expected, suc-cyc movement is not initially motivated by Subjacency, but rather by the tensed Sentence Condition and the Specified Subject Condition. The initial ex. is (49):

(49) What did you tell me that Bill saw. <from (50)>
(50) COMP you told me [sCOMP Bill saw something]

Moving in one fell swoop would violate both conditions.

TSC (1st version)

(20) No rule can involve X, Y in the structure

$\ldots X \ldots [_{\alpha} \ldots Y \ldots] \ldots$

where α is a tensed sentence

SSC (1st version)

(26) No rule can involve X, Y in the structure

$\ldots X \ldots [_{\alpha} \ldots Z \ldots - WYV \ldots] \ldots$

where Z is the specified subject of WYV in α

Returning now to (50), we first assign *wh* and apply *wh*-Movement on the innermost cycle, which gives (52):

(52) COMP you told me [$_S$[$_{COMP}$what]Bill saw]

On the next cycle, we want to move *what* to the COMP position of the matrix sentence, to give (49).[23] The Specified Subject Condition is no longer a barrier, but we are left with a violation of the Tensed-S Condition. An investigation of the conditions of the violation indicates that they are quite narrow: an item can "escape" from a tensed sentence if it has been moved into the COMP position on an earlier cycle and is moving into the COMP position on the present cycle. Furthermore, in no case does an item in COMP position move to anything other than the COMP posi-

(54) S → COMP S′
S′ → NP Aux VP
⋮

Suppose further that we continue to take S (but not S′) to be the domain of cyclic rules. Under this assumption we can reformulate the Tensed-S and Specified Subject Conditions, together with the narrow restrictions on COMP, as in (55):

(55) No rule can involve X, Y in the structure

$$\ldots X \ldots [_{\alpha} \ldots Z \ldots -WYV \ldots] \ldots$$

where (a) Z is the specified subject of WYV
or (b) Y is in COMP and X is not in COMP
or (c) Y is not in COMP and α is a tensed S

This modification of the conditions in effect asserts that an item can be extracted from a tensed sentence or across a specified subject only if there is a rule that moves it into the COMP position. Thus a *wh*-word can be extracted, as in (49)-(50), but the subject of the embedded sentence cannot be passivized in *I believe the dog is hungry*. Notice, however, that *wh*-Movement will not be permitted across a specified subject in (31a), which we restate here as (56), to give the ungrammatical **Who did you see John's pictures of*:

(56) COMP you saw [$_{NP}$John's pictures of who]

The relevant difference between (56) and (50) is that (56) has no COMP node in an NP. Therefore the *wh*-word in (56) cannot escape from the NP.

He eventually does introduce Subjacency, but it is largely redundant with TSC and SSC.

To further explore structures of the general form given in (73), let us say that if X is superior to Y in a phrase marker P, then Y is "subjacent" to X if there is at most one cyclic category $C \neq Y$ such that C contains Y and C does not contain X. Thus, if Y is subjacent to X, either X and Y are contained in all the same cyclic categories (and are thus considered at the same level of the transformational cycle) or they are in adjacent cycles. In the sentences of (77), *who* is subjacent to both nodes COMP but in (78) and (79) it is subjacent only to the node COMP of the embedded sentence

(77) (a) COMP he believes [$_{S}$COMP John saw who]
(b) COMP he wonders [$_{S}$COMP John saw who]
(78) (a) COMP he believes [$_{NP}$the claim [$_{S}$COMP John saw who]]
(b) COMP he considered [$_{NP}$the question [$_{S}$COMP John saw who]]
(79) (a) COMP he believes [$_{S}$COMP John saw [$_{NP}$a picture of who]]
(b) COMP he wonders [$_{S}$COMP John saw [$_{NP}$a picture of who]]

Subjacency <He immediately limits it to 'extraction' rules - rules moving something to a superior position. 'Superior' is almost equivalent to asymmetric c-command.>

(80) No rule can involve X, Y, X superior to Y, if Y is not subjacent to X

Finally, with respect to strict cyclicity, Chomsky says (p.246-247) that we can block derivation of things like

*To whom does John know what books to give

where first we properly extract 'To whom' then we go back and move 'what books' by his (51) - the Strict Cycle.

(51) No rule can apply to a domain dominated by a cyclic node *A* in such a way as to affect solely a proper subdomain of *A* dominated by a node *B* which is also a cyclic node

In other words, rules cannot in effect return to earlier stages of the cycle after the derivation has moved to larger, more inclusive domains. We will refer to (51) as the "Strict Cycle Condition."

Rudin 1982 "Who what to whom said?": An Argument from Bulgarian against Cyclic WH-Movement" CLS17

Like the title says, Rudin argues vs. suc-cyc WH-movement. Here's the crux of the argument: Rudin argues that the multiple fronted WHs in Bulgarian are all in Comp.

1.	Koj kŭde e otišŭl?	'Who went where?'
	who where went	
2.	Čudja se koj kakvo na kogo e kazal.	'I wonder who said
	wonder-1sg who what to whom said	what to whom.'

She then reasons

If WH-movement is successive cyclic, as argued by Chomsky (1977 and elsewhere), one would expect WH-"islands" not to be islands in a language which permits two or more WH-words in COMP, as Bulgarian does. On this theory, the existence of WH-islands in languages like English is attributed to the fact that, in order to move "across" a WH-COMP, a WH-word must move into that COMP at an intermediate stage of the derivation:

5.a) *Whom do you wonder who saw?

b) $[_{\bar{S}}[_{COMP_1}\ whom_i][_S$ you wonder$[_{\bar{S}}[_{COMP_2}\ who_j]\ t_j$ saw $t_i\ ]]]$

This derivation is blocked because of the prohibition on two WH-words in COMP; whom cannot move into (and subsequently out of) $COMP_2$, since $COMP_2$ is already occupied by a WH-phrase. Movement of whom directly to $COMP_1$ without passing through $COMP_2$ is ruled out by subjacency. The "island" status of embedded questions is thus attributed to the same factors which make *Who whom saw or *Whom who saw ungrammatical, namely the inability of COMP to contain more than one WH-phrase.

Since Bulgarian does allow $[_{COMP}$WH-phrase WH-phrase$]$, it should freely permit extraction from clauses headed by a COMP containing WH. Contrary to this prediction, however, it is in most cases not possible to question out of an embedded question (introduced by a WH-word or the WH-complementizer dali 'whether'). WH-islands behave much as in English: compare (6) and (7) to (8), which has a non-WH complementizer, and note that the grammaticality judgements in most cases are the same as those of the English glosses.

6.	*Kogo se čudiš koj e vidjal?	'*Whom do you wonder who saw?'
	whom wonder-2sg who saw-3sg	
7.	*Koj kogo se čudiš dali e vidjal?	{'*Whom do you wonder whether who saw? '*Who do you wonder whether saw whom?}
	whether	
8.	Koj kogo misliš če e vidjal?	{'Who do you think [that] saw whom?' '*Whom do you think [that] who saw?'}
	think-2sg that	

Rudin thus argues, though she doesn't put it quite this way, for a Ross style approach. WH-movement is unbounded, but cannot escape an island.

Consider now Rudin's classic paper on multiple WH-movement, "On Multiple Questions and Multiple WH Fronting" 1988 NLLT 6,4.
Here Rudin argues that there are at least 2 types of multiple fronting languages, and that Bulgarian has all the WHs in Comp (now Spec of C). She then shows that in Bulgarian, multiple WHs can move out of an embedded clause (contrary to some of the other languages she investigates. And crucially, she now relies on suc-cyc movement:

(16) $[_{CP}\, WH_i\, WH_j \ldots [_{CP} \ldots e_i \ldots e_j \ldots]]$

Given standard GB assumptions, this fact supports the contention that Bulgarian and Romanian allow multiple WHs in (adjoined to) SpecCP in the syntax, i.e. at or before S-structure, while the other languages do not permit multiple WHs to adjoin to SpecCP except at LF.[10] In order to produce a structure like (16) without violating subjacency it is necessary for more than one Wh-phrase to pass through the embedded clause specifier position: a more detailed structure for (16), showing the traces in the lower SpecCP, is (17).

(17) $[_{CP}\, WH_i\, WH_j \ldots [_{CP} [_{SpecCP}\, t_i\, [t_j]] \ldots e_i \ldots e_j \ldots]]$

Thus Bulgarian and Romanian must allow multiple Wh-traces to be adjoined to SpecCP at S-structure in order to have S-structures like (16).

Now look at this (MFS = MULTIPLY-FILLED SPECCP):

Very closely related to the issue of multiple Wh-extraction to a higher clause is that of the island status of embedded questions. As Comorovski (1986) has noted, given subjacency as the explanation of Wh-islands, we predict that a language that allows multiple Wh-elements in Comp at the level at which Wh-movement occurs "will not obey any form of the Wh-island Constraint", since in such a language a Wh-phrase could not be blocked from moving through or leaving a trace in a Comp that contains another WH. Adams (1984) makes the same observation, and of course it holds equally well if we substitute SpecCP for Comp as the Wh-position. In the present case, we predict that Bulgarian and Romanian will not have Wh-islands, but Serbo-Croatian, Polish, and Czech will, given our hypothesis that Bulgarian and Romanian are [+MFS] while the other three languages are [−MFS]. This prediction holds, as we shall now see.

Bulgarian freely allows extraction of Wh-words from an embedded question, or even from several interrogative Wh-clauses, as in (19).

(19) Vidjah edna kniga, **kojato**$_i$ se čudja [**koj** znae [**koj**
saw-1s a book which wonder-1s who knows who
prodava $\_\_{}_i$]]
sells
I saw a book **which** I wonder **who** knows **who** sells (it).

In short, as expected given the MFS hypothesis, Bulgarian and Romanian, which are [+MFS] languages, do not respect Wh-islands. Furthermore, the lack of Wh-island effects is not due to an absence of subjacency effects in general in these languages. Both Bulgarian and Romanian do obey other subjacency islands; for example, they do not allow movement from inside a Complex NP.

(23)a. *Tova e momčeto **na koeto** misŭlta če (mu)
this is the boy to whom the thought that to him
dadohme bonboni jadosva lekara. (Bulgarian)
gave-1p candy angers the doctor
This is the boy **to whom** the thought that we gave (him) candy makes the doctor angry.

Strikingly, nowhere in this paper does she note that in her earlier paper she had made exactly the opposite theoretical claim, based on seemingly parallel but opposite data. She does actually note that interrogative extraction out of an interrogative (her earlier * ex.) unlike relativization out of an interrogative (the new ex.) is pretty degraded,. But now she suggests that this should have some non-syntactic account.

Postal's argument vs. suc-cyc A'-movement, and Chomsky's reply <More on this a little later in the course>

(1) a To whom do you think (that) John talked
b Who do you think (that) John talked to
c *Who do you think to (that) John talked

P can be stranded (b) or pied-piped (a), so why can't a derivation combine the possibilties (c)?

(2) To allow (1)a and (1)b, Chomsky proposes that the wh-feature on *who*(*m*) can 'percolate' to the PP *to whom*.

(3) (1)c is still not possible, since the initial move of the PP means the feature has percolated, so the second step is impossible, by the A-over-A condition.

Epstein and Seely have some arguments and discussions about suc-cyc A-movement, in addition to the ones I gave in the other handout. Here's one rather striking one (p.22, fn8) See (105) on the other handout for just this point.

8. Notice, however, that single-bar categories do presumably undergo compositional semantic interpretation (thanks to Diana Cresti p.c. for helpful discussion of this issue). Thus if single-bar categories are indeed invisible, there would seem to be no way to perform compositional semantic interpretation at LF. A solution to this daunting problem is readily available in the Epstein *et al.* (1998) framework, within which the single-bar category is interpreted when it is still a maximal projection, before being demoted to a single-bar by virtue of concatenation with an element that will become its specifier. This derivational approach to interpretation would also 'explain' why single-bar categories are present in LF, but invisible. How can X be present in representation R but not visible in representation R? This too could come about derivationally. X′-projections are fossils of what were once X^{max}.

Interestingly, on the page immediately following that footnote, Epstein and Seely say concerning a requirement that they call 'X–invisibility':

> "Thus, if in fact X' is invisible, and reference to it in definitions is precluded, then, indeed the X' sister cannot be used to specify the positional occurrence of a category in Spec."

Later this becomes part of their argument against EPP, hence, against suc-cyc A-movement.

Their Chapter 3 is an extended argument against the EPP, hence, under plausible assumptions, against suc-cyc A-movement. ((I can't summarize their entire argument here. I encourage you to look at it yourselves.))
p.49. "... the EPP is ill-understood."
p.50. Originally, the EPP was the requirement that a clause have a subject. "But a problem with this statement of the EPP is that it represents a form of construction specificity of just the sort that, for principled reasons, is avoided within the Principles and Parameters (and Minimalist) approach.."
When later, it became a feature checking requirement of infinitival Infl, this addressed that particular problem but "it is unclear just what this EPP feature is." <I have actually argued that EPP is not a matter of feature checking.>
p.51. "Moreover, even if the EPP-feature were specified, we have the still· unanswered question of whether it is a 'strong feature' (as in CT p. 232) or not; and thus the question of the level of application of the EPP (is it derivationally satisfiable (Lasnik 2002); is it an Everywhere principle Chomsky (1995:123); or is it (at least) a PF principle (see Boskovic and Lasnik 2003)?"
Thus, it is "unclear what even the basic formulation of the EPP is."
The EPP is "'highly' redundant with other principles of Universal Grammar."

Barss assumes suc-cyc movement but offers some arguments in Section 3.3.7 that Condition A cannot be satisfied successive cyclically (as in, say, Jackendoff's early work or, roughly, Belletti, Adriana and Luigi Rizzi. 1988. Psych-verbs and theta theory. *Natural Language and Linguistic Theory* 6: 291-352).
Barss gives 2 arguments.
1. The 1st is based on passives. He presents evidence that the by-phrase is not c-commanded by the object. He then explores the following contrast:

65) George thinks that Susan would be pleased by these pictures of herself

66) * George thinks that Susan would be pleased by these pictures of himself

Or similarly:

83)

a. John thinks that [the men were [kissed t] by each other's wives]

b. * The men think that [John was [kissed t] by each other's wives]

Given a version of binding theory something like that in Chomsky 1986 Knowledge of Language (with, in effect, SSC of a relativized minimality sort, but no TSC), the worry is that (66) and (83b) might be incorrectly let in. The reasoning is that at S-structure, the passivized subject will block the anaphor from being related to the matrix subject. But prior to that NP moving to subject position, nothing blocks the relation. Thus, if we could license the anaphor prior to NP movement we would over-generate. But as Barss acknowledges, this argument is weak. Those bad results come from bad derivations. The anaphor licensing would happen on the higher cycle since that's where the hypothesized antecedent is. But the NP movement is completely internal to the lower cycle. Thus, the Strict Cycle rules these out.
2. Barss's 2nd argument is based on a complicated WH-movement derivation.

88) * Mary thinks that John wonders which pictures of herself are on the table

At S-structure, 'John' prevents an anaphoric relation between 'Mary' and 'herself'. But Barss claims that there can be a point in the derivation of (88) where therre is no such intervention. The 1st step of the derivation is the standard local WH-movement seen in (88) itself. Then the WH-phrase containing 'herself' moves to Spec of the intermediate CP. At this point, there is no intervention (just as in ✓Mary wonders which pictures of herself John likes best), so binding is now established. Then the WH-phrase moves on to Spec of the matrix CP. Finally, the WH-phrase moves back to the lowest Spec of CP. Strict cyclicity is obeyed by every step in this derivation. Kind of an unconventional derivation, but is it actually excluded by anything? If not, Barss's argument goes through.