Cyclic Spell-Out and Ellipsis

I propose a convergent-based Spell-Out model. Furthermore, I argue, based on this model, that a possible elided domain corresponds to a Spelled-Out domain, and show that with this hypothesis, we can explain data concerning wh-extraction out of elided VP in English, which are given in (1-3) (drawn from [5]). [4] accounts for this paradigm by MaxElide, which states that the biggest deletable constituent must be elided if an elided domain contains an A'-trace (cf. [3]). However, as Merchant acknowledges, it is not clear why MaxElide is applied only to domains containing an A'-trace. Thus, at this time, MaxElide is not an explanation but a generalization to be explained.

Under [1] and [2]’s cyclic Spell-Out model, the size of a Spelled-Out domain (SOD) is stipulated by the Phase Impenetrability Condition (PIC): the complement of a phase head (i.e. VP and TP). However, it is not clear why this is so. I argue that the effect of the PIC is derived from the following economy condition on Spell-Out (Spell-Out Economy): Spell-Out as much as you can once the phase has been completed. This condition is plausible given that Spell-Out is a syntactic operation, that a syntactic operation is constrained by economy considerations, and that the bigger element you Spell-Out, the more you can reduce computational burden (memory load). If a syntactic object that contains an element with an unchecked uninterpretable feature is Spelled-Out, the derivation will crash. Thus, the Spell-Out Economy requires that the biggest syntactic object that contains no unchecked uninterpretable feature be Spelled-Out when the phase is completed. Suppose, as an auxiliary assumption, that a selectee head has an uninterpretable categorial feature of its selector head (e.g. V[uv]; v[uT]; Tfin[uC]; Cembed[uV/A]; Cmatrix[no feature]), which implements categorial selection. Then, the PIC effect can be derived, as illustrated in the schematic representations in (4) (the underlined parts are SODs). When the vP phase is completed, VP is Spelled-Out because the biggest convergent domain is VP. Likewise, when the embedded CP phase is completed, TP is Spelled-Out. Notice that as for matrix clauses, the SOD is CP since Cmatrix has no selectional feature, unlike Cembed (4c). A crucial difference between Chomsky’s system and the present one is that under Chomsky’s system, the size of the SOD is fixed while under the present one, it could vary depending on the convergent status of syntactic objects. For example, suppose that T has an unchecked uninterpretable feature in (4b). Then, vP, rather than TP, is Spelled-Out.

Given this system of cyclic Spell-Out, I propose the following condition on ellipsis: X can be elided only if X is an SOD. This condition optimizes the PF computation, which determines a domain to be elided: it reduces computational burden since it enables the relevant PF computation not to look into inside an SOD.

This condition can explain the paradigm that I gave above, combined with the Spell-Out Economy and the following assumptions: (i) wh-phrases have [uWh] ([1]); (ii) multiple-Specs are not allowed in English ([6]); (iii) focused phrases have [uF], which is checked by Foc0 above CP. The explanation is illustrated in the representations in (5-7). In (5), nothing is Spelled-Out at the vP phase since VP contains the wh-phrase with an unchecked feature. Notice that the wh-phrase cannot move to SpecvP because of (ii). TP is Spelled-Out at the CP phase (5b). Thus, Sluicing is OK while VPE is not. In (6), the
adjunct and the subject are generated outside of VP, hence VP being Spelled-Out at the vP phase. Thus, subject/adjunct wh can be extracted out of elided VP while object wh cannot. Finally, in (7), when focus is put on an auxiliary verb (7b), vP rather than TP is Spelled-Out at the CP phase because of (iii). Thus, focus on AUX enables vP to be elided.

In this way, the present system can not only reduce the PIC effect to the economy condition but also provide an explanation of the generalization that falls under MaxElide, combined with the proposed condition on ellipsis.

(1) I think you should adopt one of these puppies, but I don’t know which one (*you should).  
[Sluicing/VPE asymmetry]

(2) a. I think you should adopt one of these puppies, but I don't know *[which one]/[when] you should.  
b. I think one of my classmates adopted the puppy, but I don’t know who did.  
[Complement/non-complement asymmetry]

(3) a. *I think you should adopt one of these puppies, but I don’t know WHICH one you should.  
b. I think you SHOULD adopt one of these puppies, but I can't predict which one you actually WILL. [Focus effect]

(4) a. \[vP SU(uCase) \[v(uT, u\Phi) [vP V(uT) OB(uCase) ] ] \] 
b. \[CP C_{\text{embed}}(uV) [TP SU(uCase)] [T T(uC, u\Phi) [vP t_{vU} [v(uT, u\Phi) [vP V(uT) OB(uCase)]]]] \] 
c. \[CP C_{\text{matrix}} [TP SU(uCase)] [T T(uC, u\Phi) [vP t_{vU} [v(uT, u\Phi) [vP V(uT) OB(uCase)]]]] \]

(5) a. \[vP you(uCase) [v(uT, u\Phi) [vP adopt(uT) which one(uCase, uWh) ] ] \] 
b. \[CP which one(uCase, uWh) [C_{\text{embed}}(uQ, uV) [TP you(uCase) [should(uC, u\Phi) [vP t_{vU} [v(uT, u\Phi) [vP adopt(uT) t_{vU}]]]]]] \]

(6) a. \[vP you(uCase) [v(uT, u\Phi) [vP adopt(uT) the puppy(uCase) ] ] when(uWh) ] 
b. \[vP who(uCase, uWh) [v(uT, u\Phi) [vP adopt(uT) the puppy(uCase) ] ] \]

(7) a. \[CP WHICH one(uCase, uWh, uF) [C_{\text{embed}}(uQ, uV) [TP you(uCase) [should(uC, u\Phi) [vP t_{vU} [v(uT, u\Phi) [vP adopt(uT) t_{vU}]]]]]] \] 
b. \[CP which one(uCase, uWh) [C_{\text{embed}}(uQ, uV) [TP you(uCase) [WILL(uC, u\Phi, uF) [vP t_{vU} [v(uT, u\Phi) [vP adopt(uT) t_{vU}]]]]]] \]