(Pseudo-)imperatives, indicative conditionals and virtual worlds

It is well-known that "imperative" conjunctions like (1) and (2) seem to be equivalent to the indicative conditionals in (3) and (4):

    (1)   Mow the lawn, and I'll give you five dollars.
    (2)   Catch the flu, and you'll be ill for weeks.
    (3)   If you mow the lawn, I'll give you five dollars.
    (4)   If you catch the flu, you'll be ill for weeks.

I submit that the relationship between (1-2) and (3-4) can be explained as soon as one takes into account the fact that the imperative is a irealis mood (e.g. Allan 2006; van der Auwera and Lejeune 2005). In many languages — for instance in French the imperative and subjunctive moods stand in complementary distribution; this remains true for constructions like (1-2):

    (5)   Tonds la pelouse/*que tu tondes la pelouse et je te donnerai cinq dollars.
             mow-IMP 2psg./ CONJ. you mow-SUBJ. PR. 2psg. the lawn and I you give-IND. FUT. S. 1psg. five dollars.

    (6)   Qu'il tonde la pelouse et je lui donnerai cinq dollars.
             CONJ. you mow-SUBJ. PR. 3psg. the lawn and I him give-IND. FUT. S. 1psg. five dollars.

        Let be the set P = {$p, p_1, … p_n$} of the propositions whose truth is mutually accepted in the context of conversation. Let be a set of possible worlds W_A = {w, such that $w \supseteq P$}.[1] Admittedly, assertions aim at conveying information about the actual world as it is taken to be in the light of P. Therefore, we will say that the domain of assertions is W_A in the sense that for every asserted content p, and for every possible world w, if ($p \in w$ or $\neg p \in w$), then $w \in W_A$. Now, imperative and subjunctive sentences convey a content whose truth or falsity is not presupposed, and which cannot be judged to be false or true in any of the worlds of W_A. For instance, I can express a good wish by (7), while I cannot utter (8) in order to tell my young sister that I wish I had an older sibling instead of a younger one:

    (7)   Get well soon! (from Wilson and Sperber 1988)
    (8)   ? Be born before me.

Likewise, in French, I can use the subjonctive sentence in (9) to convey my wish that Jean gets well soon.

    (9)   Que Jean se rétablisse vite!
             CONJ. Jean REFL. PRON. get-well-SUBJ. PR. 3psg. quickly!

By contrast, I cannot express my wish to have an older sibling by uttering (10):

    (10)   ? Que ma soeur soit née avant moi!
             CONJ. my sister be-SUBJ. PR. 3psg. born-PAST PART. before me!

I shall claim that the imperative and the subjunctive moods set up a *virtual domain*. (As for the French subjunctive, this claim ought to be limited to the use of the subjunctive in the main clause.) Le be the set Cf = {$\neg p, \neg p_1, …\neg p_n$}, such that for every $p \in P$, $\neg p \in$ Cf; let be the set W_{Cf} ={w, such that $w \supseteq$ Cf}. We can now define the set of virtual worlds W_V as the set of possible worlds consistent with P and that belong to -$W_A \cap$-W_C. In other words, for every member w of W_V, there is at least one proposition p belonging to P, such that $p \notin w$, and $\neg p \notin w$. For every imperative and subjunctive sentence with the content p, if ($p \in w$ or $\neg p \in w$), then $w \in W_V$. In other words, imperative and subjunctive moods restrict the domain of truth-conditional evaluation to virtual worlds.

        This semantics of the imperative establishes a distinction between the directive illocutionary force with which an imperative sentence can be used and the semantics of the

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[1] Possible worlds are conceived here as consistent sets of propositions (but not as maximally consistent sets of propositions).

imperative mood. It is no wonder that the representations of virtual propositions are often recruited to issues orders, requests and the like. The ability to adopt a genuinely goal-directed behaviour implies that the agent can represent to herself several virtual situations, and select one among them as a goal to reach (Millikan 2004). Likewise, a good way to trigger in the addressee the decision to bring about the truth of p, is to present him with a virtual representation of p. The second advantage of our semantics is to exclude every reference to desirability. For instance, in (2), the content of the imperative clause in not desirable, be it from the point of view of the speaker or of the addressee. However, this is not a non-literal use of the imperative, for the truth of the second proposition follows from the truth of the first.

Let us symbolise (1-2) as (11):

(11) $!p \wedge q$

If q is to interpreted as an assertion, (11) cannot be assigned a truth-conditional content, for while the first conjunct receives a truth-value only in worlds of W_V, the second one can be truth-valuated only in worlds of W_A — but the whole can receive a truth-value in a possible world iff each of the conjuncts receives a truth value in that same possible world. Admittedly, the indicative mood does not place any constraint on the domain of the truth-evaluation (for instance, it can be used in antecedents of counterfactuals). Therefore, an interpretation in terms of domain binding is available. The first conjunct takes W_V as the input-domain and delivers the sub-set $W_V' = \{w,$ such that $p \in w\}$ as output; the second conjunct takes W_V' as input and delivers the sub-set $W_v'' = \{w,$ such that $p \in w$ and $q \in w\}$. It follows that every virtual world where p is true is a possible world where q is true as well.

According to the standard analysis of indicative conditionals, (3-4) — of the form $p \rightarrow q$ — are true iff in every possible world consistent with what is presupposed — that is in every member of W_A — and where if p is true, q is true as well. Imagine that P is such that it is permissible to utter $!p \wedge q$. It follows that $p \notin$ Cf, $q \notin$ Cf, $p \notin$ P, $q \notin$ P; therefore, there is no world w in W_A such that $(p \wedge \neg q) \in w$. This is why whenever an 'imperative' conjunction like (1-2) can be used, the corresponding indicative conditional can be used as well. However, the converse is not true:

(12)   If you miss the train, there is a waiting room on platform 1. (from Clark 1993)
(13)   ? Miss the train, and there is a waiting room on platform 1.

The problem with (13) is that the second conjunct is presupposed to be true in the actual world. Consequently, its domain cannot be limited, through binding, to a set of virtual worlds. Note however that when the existential reading can be excluded — or rather displaced to a virtual world — things improve:

(14)   [S and A are in a Swiss village they don't know]:
        I think we're late. But in a nice Swiss village like this one, I'm sure they anticipate everything. Miss the train, and there is a waiting room, be hungry, and there is a restaurant just in front of the station…