1. Efficient Cause (EC) in Aristotle is said in many ways:

\*7+ Aristotelian EC (Overlapping) Models Divided into Powers, Forms, Natures, Substances:

**POWERS** [“Potencies”] *dunameis* - active powers (or: potencies) as ECs; “principles of change in another thing, or in [a thing itself] qua other” (Met. 9.2-Tredennick); an “origin of motion or change [existing] in [the thing moved], as something other [than the thing moved]” (Met. 5.7, 1019a15-16-Tuozzo); external principles of change and being at rest (Met. 9.8, 1049b5); these powers act on internal natures

**FORMS** in the category “QUALITY” e.g. being hot

**NATURES** – something about the thing changed that is the EC of its change; an inner principle of change and being at rest (Physics 2.1, 192b20–23); “an origin of change existing in the thing [changed] itself” (De Caelo 301b17-18; tr. Tuozzo, 36); a precondition for change; also called *dunameis*; these natures are acted on by external powers; its definition refers to  kinēsis

**SUBSTANCE** (Models 7+)(?)

- Elements (4 terrestrial, 1 celestial)
- Bodies (Terrestrial, Celestial)
- Hylomorphic composites
- Souls & Intellects

Special Cases of Substances = Special ECs?
- Are Separate Celestial Intellects ECs?
- Is God EC?

**Non-Rational Powers**

- (Model 1): “that which causes motion in a natural fashion” (Phys. 201a24) e.g. heat in fire or in a hot stone

**Rational Powers**

- Power of Arts (Model 2)
  e.g. healing, teaching, carpentry

- Tools/intermediaries/moved movers (Model 3)

**Natures of Non-Living Things**

- matter (N/A – yes ’a nature’; but not EC)
- nature of a non-living body (Model 4a)

**Natures of Living Things**

- souls (Model 5): souls as ECs of motion of living things (= “self-movers” w/ soul as mover, body as moved); nutritive soul as EC of growth= motion/change in category of quantity; sensitive soul as EC of motion in sense organs & heart
- rational souls

Model 1: When change comes about “naturally” from outside

Ex. Fire or hot stone heats glass of water.
  • Note: In this ex. the real EC is the form (being hot).
  • So: Heat (and most properly the form of heat in the quality ‘being hot’) is EC in the case of a hot stone heating the cool water.
  • Can only have one result (heat only produces heat- Met. 9.2)

Model 2: technai/ poïetikai epistēmai/arts (productive sciences)

Ex. The art of healing (teaching) in the example of Socrates’ healing (or teaching) a sick (or ignorant) patient (or student); the art of carpentry in Socrates’ building a shed from a pile of wood • Note: Can have opposing results (art of healing can produce sickness or health; Met. 9.2) (this is because of the motions of the soul) • When doctor heals you, its the art (not the doctor) that is the most proper EC

Model 3: Intermediaries as “moved movers”- not ECs most properly...

Ex. Doctor uses wine to administer a cure to the body of the patient. (EC is the art of healing; Intermediaries [sometimes also called EC, but not most properly so]: Doctor’s body, Doctor’s hands, wine, patient’s body).

Models 4a-4b: When change comes about “naturally” from inside

Model 5: When change comes about “psychically” from inside

Ex. 1: Nutritive soul (via intermediaries of bread, body, etc.) grows body; see too role of soul as EC in embryology;
Ex. 2: Sensitive soul (via intermediaries of sense organs, heart)
Ex. 3: Socrates’ soul in the example of his pushing a stick pushing a stone.

Model 7+

Examples of Substance as EC? (or perhaps these examples all reduce to examples of other models?)

1. Socrates is EC in different ways/senses in the examples of:
   • Socrates’ hand pushing a stick pushing a stone [=model 5?]
   • Socrates’ healing (or teaching) a sick (or ignorant) patient (or student) [=model 2; the real EC is the art]
### 2. EC Grid

<table>
<thead>
<tr>
<th>Model 1 - non-rational power (e.g. something hot turns something else hot)</th>
<th>Yes</th>
<th>Yes</th>
<th>N/A</th>
<th>No (mechanism works)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 2 - rational power of arts</td>
<td>No (T33- Artist.: healing art is origin, but only bread (intermediary) touches (and is last/ proximate to the effect/motion-in-the-effect)</td>
<td>No</td>
<td>Yes; Craftsman is not always active wrt to art; she only becomes so when she desires to use it (T39m)</td>
<td>No (heat heats on contact)</td>
</tr>
<tr>
<td>Model 3 - intermediary</td>
<td>Yes</td>
<td>Yes (T33- see above point on role of bread)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 4b - natures of 4 elements</td>
<td>[Note: unique kind of potency that actualizes without any agent; unlike EC of powers and unlike EC of rational natures]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 5 - soul (qua nature-/i.e. as the nature of something, i.e. as an internal principle of change)</td>
<td>Yes</td>
<td>No (the soul is not changed [T37]; soul is not moved v. atomists, Plato [T36b]; but souls is moved 'incidentally/ accidentally' by the bodies they move [T45]</td>
<td>No (e.g. nutritive soul is nothing but the motions of body, and sensitive soul is nth but certain perceptual motion in the sense organs and heart)</td>
<td>No (soul's activity is always immediately the motion of body) (unlike model 2 where conditions abound) (T38b)</td>
</tr>
<tr>
<td>Separate intellects</td>
<td>*</td>
<td>No- and not even accidentally as in case of soul above</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>God in Aristotle</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>God in Maimonides?</td>
<td>Yes (matches general spirit of even: horizontal EC); &amp; shares 'uniqueness' as w 4b</td>
<td>No (matches no of model 2)</td>
<td>No (matches no of model 2, 5)</td>
<td>No (matches no of model 1, not no of model 5)</td>
</tr>
</tbody>
</table>

- **Contact**: Being EC requires physical contact
- **Reciprocal Change (Change 2)**: Even though it's the cause, it is itself affected/diminished by being the EC (e.g. the cause loses something as when a hot stone heats cool water and itself cools down)
- **Desire-Actualization (Change 2)**: Being EC and actualizing x in an effect involves coming to have a desire of some sort related to x and (as such) coming to actualize (in itself) something that was not yet actualized (in itself) (e.g. When Socrates as teacher actualizes the knowledge/ess of music in his student (i.e. when Socrates conveys to the student the art of music), Socrates first "becomes active" in his own musical knowledge i.e. arts are "dispositions to activity of a certain sort; their possessors become active with respect to them when they desire to use them" (Tuozzo 2014, 34); Aristotle in this regard notes that in order to teach, the teacher must not merely possess the knowledge in question, but must make active use of it in the process of teaching (Tuozzo 2014, 35)
- **Condition**: Requires a certain condition in the effect (e.g. teaching only can take place if the student has the proper long- and short-term preparedness to be learning)