Several of the characters from the play in Homework 1 have their life lines cross paths again in this homework. To refresh your memory about who is who, you probably need to check through the cast of characters at the start of the play.

**Bray**

The loneliness of a stormy, grey February afternoon was falling all over Ireland. The wind shook the window panes of Rory’s study, driven by intermittent gusts sweeping off Dublin Bay. Even his customary blazing-hearth-and-decanter-of-Jameson defense against rattling windows and drafty French doors seemed to be faltering in this winter gale. Dark clouds engulfed Bray Head and the Sunday morning constitutional-takers had retreated to their homes.

Rory gazed through the balcony windows at the waves breaking over the promenade. A solitary vehicle turned onto Strand Road, and he watched its splashing progress through the storm. The large car turned into the resident’s parking area in front of Martello Terrace. It was the type of Bentley that ministers of the newly elected government were using for transportation. A chauffeur, with the phenotype of a Dublin Castle detective, held an open umbrella for a woman alighting from the rear seat. Her face was shielded as they walked to the end of the Terrace and through his garden gate. Rory noticed that she was elegantly dressed and walked with a determined gait.

‘My job involves much fence mending--the responsibilities of being in power rather than opposition, I suppose’, mused Sinead Brophy, sitting by the fire in Rory’s study. ‘Maturity brings on regrets for what we were called upon to do in the Troubles; but we are in different times now, Rory. We need to work together for the good of the country. I’m sorry you had to leave for North Carolina. I grieve for Victoria Gladstone, as for all those who died. But I paid my own dues too.’

Rory was aware that following the British withdrawal, Sinead Brophy had joined the Anti-Treaty insurgency forces in the Irish Civil War. She had spent two years in Kilmainham Gaol, part of it on hunger strike. Upon release in 1924, she spent several years in Dublin studying law, and eventually entered constitutional politics along with most of her Anti-Treaty comrades. Minister of Health Sinead Brophy, sitting opposite Rory in 1932, was a very elegant and educated woman in contrast to the groom he had last seen along the Cashel road, with a Mills bomb in hand, in 1919.

‘Tuberculosis is at epidemic levels in Ireland, as you know. But our government is committed to its eradication, and we believe we have the answer. Department of Health researchers recently stumbled upon a powerful drug in an extract from the species Allowyi dramme sp. burkenhare.’

Rory smiled. He was aware of *A. dramme*. Lady Penelope had brought the species back from Afghanistan and would consume a few drops of its seed extract in her afternoon tea. It was referred to as ‘Her Ladyship’s Medicine’ in hushed tones by the staff at the Gladstone Seed Company. Its alkaloid constituent induced a mild euphoric and relaxed condi-
tion. Lady Penelope grew a large plot of *A. dramme* each year in her garden, letting the plants open-pollinate. She gathered a large bulk of seed each harvest, and used any remnant seed for planting the following season.

‘Yes, I am aware of the CHT alkaloid properties of *A. dramme*,’ said Brophy, reacting to Rory’s smile. ‘But we are interested in the bactericidal properties of another extract, INH. It is a powerful anti-tuberculosis treatment.

‘As fate would have it, we are in possession of the only seed of the landrace with high INH known to exist. After the Anglo-Irish war ended, Sean Duggan billeted our rebel column in the Gladstone Seed Company premises. Among the seeds we confiscated were Lady Penelope’s open-pollinated harvest of 1922. It was the last time the seed was grown, for she died just before the war ended.’

‘You were billeted there during the few months after the British left, but before the Irish Civil War started?’ inquired Rory.

‘Yes. And during that time our column split down the middle politically--Pro and Anti-Treaty. It wasn’t long before we were turning our guns on former comrades. Poor Sean Duggan refused to take either side, and he left in disgust for Spain. He never returned to Ireland.’

‘So, for what do I deserve the honour of a visit on a Sunday afternoon from Sinead Brophy, after all these years?’ asked Rory.

‘Research. Aimed at improving the health of the Irish people. My Ministry will give you Lady Penelope’s seed, and support a breeding program designed to develop a cultivar with high INH, but low CHT content. We will fund graduate students, field and lab technicians, and supplies, whatever you need.’

‘My only requirement’, continued Brophy, ‘is that your work be kept completely secret--at least until it is completed. You are aware how my party was denounced by the opposition as being communist when I suggested free medical care for children, and how we were condemned as elitist for trying to improve efficiency with our new ministerial transport. Well, one can imagine the uproar if it was made public that we are funding research on *A. dramme*, an illegal recreational drug. This is the reason we want you to breed out the alkaloid content--so this anti-tuberculosis treatment can be made readily available’.

Rory considered the offer for several weeks. For all the outward signs that times had changed, the emotions of the past would never be erased. Nevertheless, Sinead Brophy seemed sincere in her intentions; tuberculosis was a terrible problem in the country. He admitted, privately, that much of what the new government was attempting to implement was needed—even if they were somewhat naive. Research funding had been slim since he returned from North Carolina State College with a doctorate in Plant Breeding. He certainly was the best qualified to undertake the task in the country.
**Spring 1933: Field**

Rory received the funding plus a sack of *A. dramme* seed labeled ‘LP 22’ that was described as being the open-pollinated seed harvested by Lady Penelope in 1922. He decided to simply plant the seed, and let it open-pollinate for this first season. He was unsure of the germination ability of the seed and, besides, he wished to observe the species through a field season. The germination rate proved to be high, the crop grew vigorously and in the fall he harvested a bulk sample of seed and placed it in a sack labeled ‘Bray 33’.

**Spring 1934: Field**

Rory planted a 0.25-acre plot using seed from the ‘Bray 33’ sack. The plants were permitted to open-pollinate. In the fall he harvested 276 random plants and put the seed from each plant in a separate envelope. The remaining several thousand plants were harvested in bulk and put in a sack (‘Bray 34’). The harvest period was cold and wet, so the seeds were artificially dried.

Seeds from each of the 276 plants were analyzed for CHT and INH content in the lab. The following data were recorded:

- 51 plants had seed with 10 units of CHT and 20 units of INH
- 35 plants had seed with 0 units of CHT and 15 units of INH
- 102 plants had seed with 10 units of CHT and 15 units of INH
- 17 plants had seed with 0 units of CHT and 20 units of INH
- 52 plants had seed with 10 units of CHT and 10 units of INH
- 19 plants had seed with 0 units of CHT and 10 units of INH

After completing the genetic analysis, Rory felt fortunate that the two contrasting alleles at the loci controlling CHT and INH were each present at a frequency of 0.5 in the population.

**Christmas 1934:**

In mid-December, Rory wrote Sinead Brophy to arrange a meeting to discuss the results of the analysis. He indicated he had determined the genetic control of CHT and INH.

On the Friday before Christmas, Rory left his office and strolled along the east side of St. Stephens Green. A swarm of green uniforms filled the sidewalk outside Loretto Convent as the schoolgirls running and shouting celebrated the start of their holidays. The general air of Christmastime gaiety had engulfed the city. The restaurant in the Shelbourne Hotel was noisy with revelry unusual for lunchtime. Sinead Brophy was recognized and clearly made welcome by the clientele. Her popularity in this establishment, still a bastion of the landed gentry, was indicative of the broad support for her health initiatives in the country.

‘I believe the release of a high INH, low CHT cultivar is relatively certain of success,’ concluded Rory after explaining his results.
‘I knew I had picked the right person for the job,’ rejoined Sinead.

Afterwards, when they reached the front steps of the hotel, ready to depart on their separate paths, she remarked,

‘These weeks before Christmas probably rekindle sad memories for you--are you all right?’

‘Oh, I guess one never forgets; one simply learns to live with that kind of sadness. Thank you for asking.’

**January 1935: Greenhouse**

Having worked out the genetics of CHT and INH, Rory decided to estimate the genetic variances in the population. He planted 100 random seeds from the sack ‘Bray 34’ in 100 different pots in the greenhouse. He was unsure of the germination rate of this batch of seed because of the wet and cold conditions under which it was harvested. As a precaution, and to insure he would have sufficient derived lines for field evaluation, he planted 100 random seeds from the sack ‘LP 22’ in another 100 pots. As it turned out, the germination rate was over 90% for both seed lots. He covered the flower heads on all plants to insure self-pollination. He harvested the seed from each of the 180 mature plants. He put the seed in 180 separate envelopes.

**April 1935: Field**

Seeds from each derived line were planted in 180-rows. At harvest the seed from 10 random plants within each plot were harvested and put in separate envelopes. The 1800 samples (180 derived lines x 10 plants per plot) were analyzed for CHT and INH content.

Rory spent several weeks calculating the genetic variances among and within the derived lines. He intended to combine the results from the derived lines originating from both the ‘Bray 34’ and ‘LP 22’ seed sources. As part of his analysis, however, he examined data from each seed source separately. The results were unexpected, but he did not dwell on them for long.

<table>
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<th>Seed source</th>
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<th>Variance Within derived lines</th>
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<td>INH</td>
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<tr>
<td>LP 22</td>
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**Christmas 1935:**

Rory and Sinead decided to repeat their pre-Christmas discussion of research results over lunch at the Shelbourne Hotel. Sinead had been true to her promise of research funding. Ministry of Health checks had arrived at regular intervals. He had followed her career in
newspaper reports and felt he knew her better than their infrequent meetings would suggest. He noticed that hospitals specializing in the treatment of tuberculosis were opening in every county as a result of her influence. Progress was being made.

Rory’s respect for Sinead had grown considerably over the past twelve months and he was excited about being in her company again. As he passed the statues of the Nubian princesses guarding the entrance to the hotel, Rory felt in his pocket for the Christmas gift he had purchased. He wanted to thank Sinead for her support and to atone, in his mind at least, for the suspicion and distrust he had felt towards her.

During lunch, Rory outlined his cultivar development program and predicted release of an open-pollinated synthetic cultivar with high INH and zero CHT within three years. Three years after that he would release a more uniform single-cross hybrid. The extra time was required to complete the selection of superior inbred parents.

‘You know the only confusing aspect of this project is the contradictory results I am finding in an academic study I am conducting on genetic variation in Lady Penelope’s seed lot versus some of my own progeny from that original seed lot,’ explained Rory.

‘Oh...will it affect the release of a cultivar,’ questioned Sinead.

‘No, it’s just research for my peers—publish or perish; you know the game we academics play to justify our existence to an unwitting public,’ smiled Rory.

Sinead laughed, and leaned back in her armchair, and began to open his Christmas gift.

‘Rory,’ she said, changing the subject. ‘I will spend Christmas at my vacation house on the Flaggy Shore in County Clare. It is marvelously isolated from the problems and people of the world and the opposition parties’ new set of lies—they will spread any rumors that they think can hurt us. In fact, over Christmas, one could stay in Stormy Hall all week and not meet a single soul. Will you come with me; it would be healing for us both to get back to the Atlantic Coast of our youth.’

Later, while walking down the hotel steps, Sinead lightly touched Rory’s arm for support. As he turned to say goodbye, she gently pressed her cheek to his.

‘Rory, I have very few uplifting encounters in my current profession; thank you for meeting me today.’

He wanted to reply, to tell her how he felt, but her chauffeur was opening the car door.

The porter slammed the carriage doors of the 6:15 pm Bray Express as it readied to depart Harcourt Street Station. At the last moment, a tall, middle-aged man in a heavy overcoat
joined Rory in his empty compartment. They exchanged pleasantries. Rory stared out of the window as the stranger engaged in reading his evening newspaper. Rory had decided he would accept Sinead’s lunchtime offer and travel west for Christmas. It would be good to get close to home again, and the lunchtime meeting had lived up to his hopes about being in the company of Sinead Brophy again. Since returning to Ireland, Rory had often found he preferred the company even of those whom he opposed during ‘the Troubles’, to the company of those who had avoided taking sides.

When the train was passing the last of the suburbs, Rory’s traveling companion put his paper down and volunteered:

‘Dr. Dolan, I am Inspector Ned McShane of the Serious Crimes Squad in Dublin Castle. I have a rather delicate matter I wish to discuss with you--your cooperative research with Minister Brophy.’

Rory stared back impassively, and waited for him to continue.

‘I understand the research is classified, but I am aware it involves A. dramme. No, Dr. Dolan, I am not concerned with the recreational aspects of this plant, but the connection Minister Brophy has with this project.’

‘I don’t understand,’ replied Rory.

‘We may be dealing with a far more serious irregularity than recreational drug use, Dr. Dolan. I am investigating murder, cold-blooded murder,’ emphasized Inspector McShane.

As the train sped over the Milltown Viaduct, through the sleepy village of Dundrum and the green expanse of the Leopardstown Race Course, McShane related the details behind his long-time preoccupation with Sinead Brophy.

Sean Duggan (the rebel commander in the Anglo-Irish war), it transpired, had become a somewhat pathetic figure after he arrived in Spain in late 1922. He had rented a small, isolated farm outside Bernuy de Porroros but seemed to spend most of his days in a semi-drunken stupor. He died in a fire at his farmhouse in late 1924. He was a loner and everyone assumed that local wine was the basis of his addictive behavior. His intemperate ways had convinced the Spanish police that the fire in his home was accidental.

‘Inspector McShane, I don’t see how this relates...,’ interjected Rory,

‘Sean Duggan was a teetotaler in Ireland,’ snapped McShane. ‘He never drank. I believe he had taken seed of A. dramme with him from Gladstone’s and had fallen under its evil control. I think he was using his plant breeding experience to develop hybrids for the underground drug market. He was aware of the new methods being used in the States with corn, and was probably imitating them. There was not much left after the fire, but the Spanish police believed they found charred remains of A. dramme in the house.’
Sean Duggan hadn’t reckoned on the evil power of A. dramme, nor on the vengeance of Sinead Brophy,’ continued McShane. ‘She was released from Kilmainham Gaol before the fire in Bernuy de Porreros. I’ve always speculated that Sinead Brophy suspected Sean Duggan of betrayal. She was lifted by Pro-Treaty forces soon after Duggan left for Spain. Two years in Kilmainham is plenty of time to hone paranoid delusions.

‘Really Inspector, don’t you think your imagination may have gotten a little carried away. The work Minister Brophy is funding has nothing to do with the abuse of A. dramme, but its ability to do immense good for the country,’ objected Rory, who was becoming very suspicious as to McShane’s real motives.

‘And immense good for Sinead Brophy perhaps, Dr. Dolan. I suspect that pharmaceutical company executives are paying her off to get exclusive rights to the fruits of your research. She recently bought a vacation home on the Flaggy Shore.

And where did the seed come from to start your research? If she had met Duggan in Spain and saw what he was up to, she would have been aware of A. dramme’s potential value as a source of illegal funds should the Civil War be restarted. Allowyi dramme extract could be swapped for a lot of Thompsons on the illegal arms market. The political situation was far more volatile in 1924 before ‘the gun’ was supposedly taken out of Irish politics.’

‘You have a very fertile imagination, Inspector, the seed I used to start my research came from the old Gladstone premises’, replied Rory.

The train entered Bray Station. Both men walked across the footbridge. McShane paused to wait for a train to take him back to Dublin.

‘May I ask you a personal question, Inspector?’ inquired Rory. Which side did you take in the Civil War?’

‘Damn you, Dolan; this has nothing to do with Civil War politics. But, if you must know, I fought against Sinead Brophy and her fellow travelers. Civil War--there was nothing civil about that gang of criminals.’

‘As I thought,’ mused Rory as he left the station and walked towards the promenade. ‘And nothing civil about your gang either--except you won.’ Obscene butchery by both sides had destroyed a generation of the best leadership in the emerging nation. Since the British had left, McShane’s Dublin Castle detective unit was populated with men who honed their skills over a decade previously as the notorious “Twelve Apostles”. Their role during that time was to identify and eliminate British Intelligence agents. They continued to utilize those skills on a different foe during the Irish Civil War.

A light rain had begun to fall, and the promenade was empty of the usual hand-in-hand evening strollers. His meeting on the train had unnerved him. McShane was a disagreeable individual and his obvious personal bias against the Anti-Treatyites now in power reduced the credibility of his accusations. Even after ten years, Civil War politics were not far below the surface.
As the Christmas lights of the railway station receded, Rory felt the cold wind blowing off the harbor. The clanking of the sailboat rigging interrupted his thoughts, while the looming Martello tower blocked the moon’s glow. For the first time, his dark house at the end of the terrace looked uninviting. He crossed the road to avoid two strangers walking from the Harbour Bar after the familiar ‘two-in-the-back-to-tumble-you-and-two-in-the-head-to-finish-you’ teamwork of the Twelve Apostles flashed in his mind. The strangers passed harmlessly. Nevertheless, he felt compelled to glance around before entering, to catch anyone watching from the shadows.

Before kindling the fire in his study, he removed the ‘Peter-the-Painter’ from his file cabinet. He checked the action and loaded the magazine. He placed the gun on his desk.

Rory sat in the dark, nursing a tumbler of whiskey, as the fire began to warm the room. He was at the center of a political firestorm that had serious consequences given the power of the players involved. No proof existed to support the allegations made against Sinead Brophy, and she had mentioned at lunch that the opposition would spread any lies that hurt her party politically. He looked forward to spending Christmas with Sinead, but did he want to be alone with her on the remote shores of Galway Bay, if she was as dangerous as Inspector McShane suggested?

His thoughts came back to the confusing data on genetic variances in the ‘Bray 34’ and ‘LP 22’ populations. Could there be some explanation hidden there? He turned on the lights and spread the sheets covered with his calculations on his desk. An hour later he had his answer.

**Question:** Was Inspector McShane overreaching in his interpretation of Sinead Brophy’s activities because of his personal biases and civil war memories, or was there evidence that Rory should rethink his decision to spend Christmas with Sinead Brophy?

**Note:** To get full marks, I need a comprehensive set of *numbers, dates and activities* explaining your conclusion. Getting halfway and guessing will *not suffice.*